113, 133 W. Tibetans AJ4

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[For information pertaining to topography, see 1: Drew, AV1 Kashmir, category 116, pp. 222-238, 260-355.]

1: Cunningham AJ4 W. Tibetans AJ4

133 [For data on geography, topography and related subjects, see category 116.]

487 101 175 travellers would have to cross the Kárákoram mountains; but as *Tsu-ho* is stated to have been only 1,000 li (about 166 miles) from *Su-le* (or Kashgar), it is clear that Fa-Hian must have followed the western route. This is more distinctly proved by the Chinese identification of *Tsu-ho* with *Chu-kiu-pho*, which was exactly 1,000 li to the westward of Kotan. *Tsu-ho* was therefore midway between Kotan and Kashgar. Klaproth identified it with Kukeyar, and he is probably correct. From *Tsu-ho* the pilgrims proceeded to the south, and over the *Tsung-Ling*, or "Onion Mountains." From
● [133] Kukeyar to Ladák the road lies to the south over
[137] the Kárákoram mountains, which, even as high as 17,000 feet, are covered with wild leeks, thus justifying the Chinese name of Tsung-Ling, or "Onion Mountains."* To the westward of *Kie-chha*, at one month's journey, was *Tho-ly*, or (as it is written by Hwan-Thsang) *Tha-li-lo*, which is an exact transcript of Darel, one of the Dardu districts on the Indus; and which Hwan-Thsang places to the westward of *Po-lu-lo* or Bolor, that is, the modern district of Balti. As Darel is just one month's journey from Lé, the district of Ladák corresponds exactly in geographical position with the ancient kingdom of *Kie-chha*.

101 175 3. But the other details, recorded by Fa-Hian, seem to place this identification beyond all doubt. The country was "mountainous, and so cold that no grain but corn ever ripened," which is exactly the case with Ladák.
[778] *Kie-chha*, moreover, possessed a stone vase of the same colour as Buddha's alms-dish, besides a tooth of Buddha.

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* I owe this fact to Dr. Thomas Thomson, my brother Commissioner on the Tibetan frontier, whose spirit of enterprise carried him to the top of the Kárákoram pass.

II.—GEOGRAPHY.

1.—GENERAL DESCRIPTION.

133 THE most striking feature in the physical aspect of Ladák is the parallelism of its mountain-ranges, which stretch through the country from south-east to north-west. This general direction of the mountain-chains determines the courses of the rivers as well as the boundaries of the natural divisions of the country. The general aspect of Ladák is extreme barrenness. Seen from above, the country would appear a mere succession of yellow plains and barren mountains capped with snow, and the lakes of Pangkong and Tshomo Riri would seem like bright oases amidst a vast desert of rock and sand. No trace of man nor of human habitations would meet the eye: and even the large spots of cultivated land would be but small specks on the mighty waste of a deserted world. But a closer view would show many fertile tracts along the rivers, covered with luxuriant crops, and many picturesque monasteries, from which the chant of human voices ascends on high in daily prayer and praise. The yellow plains along the Indus would then be seen covered with flocks of the shawl-wool goat, and all the principal thoroughfares of the country dotted with numerous flocks of sheep laden with the merchandise of China and of India.

4

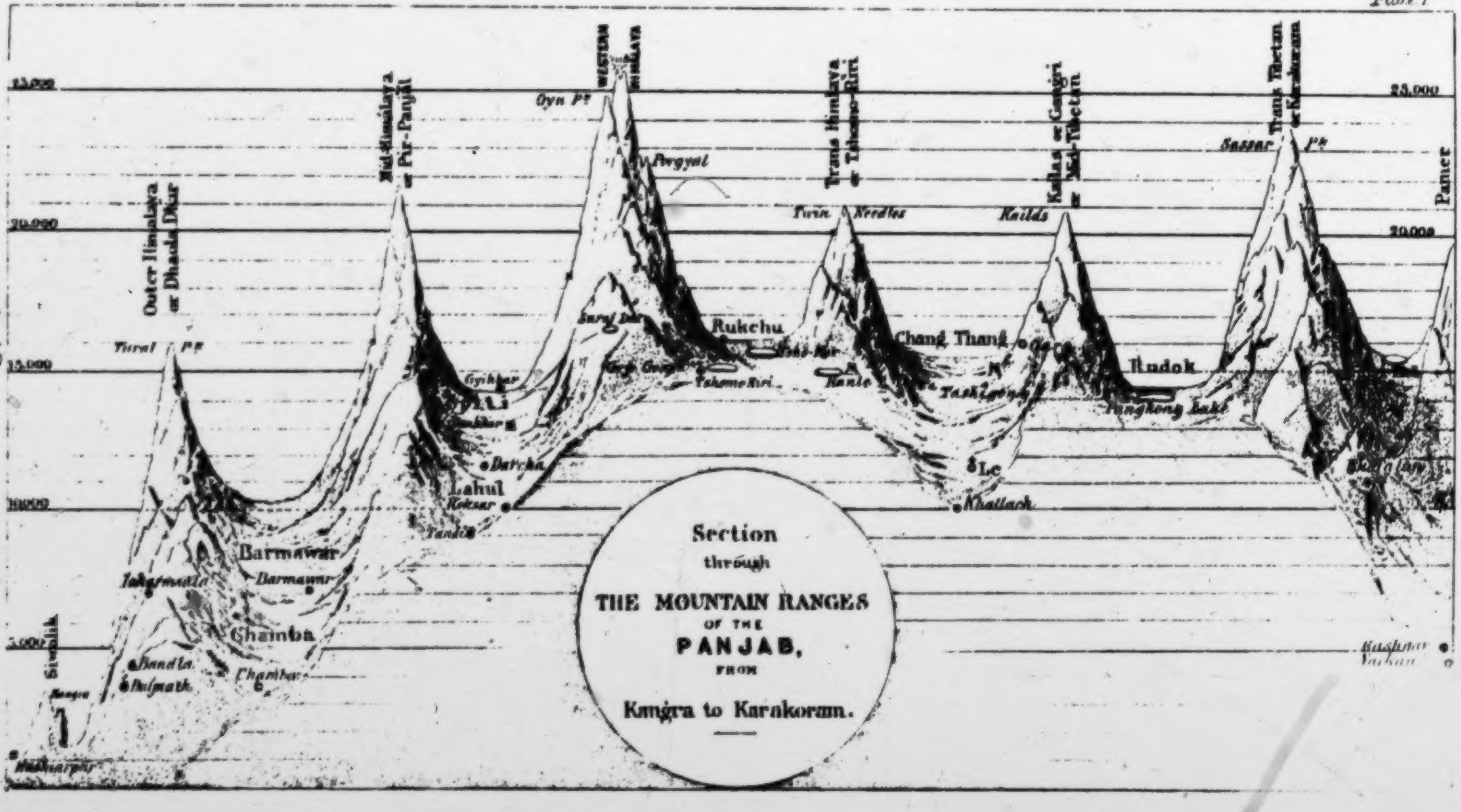
The territory of Ladák is one of the most elevated 133
regions of the earth. Its different valleys lie along the
head-waters of the Indus, the Sutluj, and the Chenáb;
and the joint effects of elevation and of isolation amidst 132
snowy mountains produce perhaps the most singular
climate in the known world. Burning heat by day is
succeeded by piercing cold at night, and everything is
parched by the extreme dryness of the air. The rarefied
atmosphere offers but little impediment to the sun's
rays, which during a short summer are sufficiently
powerful to ripen barley at an elevation of 15,000 feet,
although the temperature falls below the freezing point
every night. This climate is equally favourable to
animal life. The plains between 16,000 and 17,000 feet [136]
are covered with wild horses and hares and immense
flocks of domestic goats and sheep; and the slopes of
the hills up to 19,000 feet abound with marmots and
Alpine hares. Such is the extreme dryness of the
atmosphere, that no rain falls and but little snow, and
both meats and fruits are cured by mere exposure to
the air.

2.—BOUNDARIES AND EXTENT.

Ladák is the most westerly country occupied by the 101
Tibetan race who profess the Buddhist faith. On the 131
north it is divided by the Kárákoram mountains from
the Chinese district of Kotan. To the east and south-east are the Chinese districts of Rudok and Chumurti;
and to the south are the districts of Lahul and Spiti,
now attached to British India, but formerly belonging
to Ladák. To the west lie Kashmir and Balti, the
former separated by the western Himalaya, and the

133

Plate 1



25,000
20,000
15,000
10000
5,000
Siwalik
Kangra
Hushiarpur
Outer Himalaya or Dhaola Dhar
Tiral Pt
Jalsurmalla
Bandla
Baijnath
Barmawar
Chamba
Mid-Himalaya or Pir-Panjal
Gyibhar
Lahul
Darcha
Koksar
Tandi
Gyn Pt
WESTERN HIMALAYA
Pergyal
Rukchu
Tahomo Riri
Trans Himalaya or Tahomo Riri
Twin Needles
Hanle
Chang Thang
Tashigong
Le
Khallach
Kailas or Gangri or Mid-Tibetan
Kailds
Rudok
Pangkong Lake
Trans Tibetan or Karakoram
Sassar Pk
Pamer
Kashgar
Yarkan

Section through THE MOUNTAIN RANGES OF THE PANJAB, FROM Kangra to Karakorum.

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1: Cunningham G-3 (1846-47) 1854 AJ4 W. Tibetans AJ4

of Ladák, but to the north of *Ngari*, lies the extensive province of *Chang Thang*, or the "northern plains." Ladák itself is called Mar-yul or Low-land, perhaps from its inferior elevation to all the surrounding districts. 634 / 103

Nubra,* or the north-western district of Ladák, includes all the country drained by the Nubra and Shayok rivers. It is by far the largest district in the country, being about 128 miles in length by 72 miles in breadth, with an area of 9,200 square miles. It is bounded on the north by the Kárákoram mountains, and on the south by the Kailas range, which divides the Indus from the Shayok; and it extends from the frontier of Balti, in east longitude 77°, to the Pangkong lake on the borders of Rudok. The mean elevation of the inhabited parts of the country, from an average of fourteen observations at different places, is 12,763 feet. 634 / 131 / 133

Ladák is the central and most populous district of the country, from which it is sometimes called *Mang-yul*, or the "district of many people." It stretches along the Indus in a north-westerly direction from Rukchu to the frontier of Balti, a length of 120 miles, with an average breadth of 33 miles. Its area is about 4,000 square miles, and the mean elevation of the inhabited portions, as deduced from observations along the Indus, is 11,500 feet. [103] [131] [162]

Zanskar includes all the country lying along the two great branches of the Zanskar river, in a general direction from south-east to north-west. It is bounded by Ladák on the north, by Rukchu on the east, by Lahul on the south, and by the small districts of Purik and Wanla on the west. The southern boundary is formed by the

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* *Nub-ra*, western.

634 great Himálaya itself, the western boundary by the
/31 transverse range of Singgé Lá, and the northern boun-
/33 dary by the Trans-Himálayan chain. Its greatest length is 72 miles, but its mean length is not more than 56 miles, and its mean breadth is about the same, or 55 miles. It has an area of 3,000 square miles, and a mean elevation of 13,154 feet, as deduced from seven different
[103] observations along the course of the valley. The name of *Zangs-kar** means "white copper" or brass; but I have no idea why it is so named.

Rukchu is the most elevated district in Ladák, and one of the loftiest inhabited regions in the known world. The mean height of the plains, as determined from twenty-one different spots where I encamped in 1846 and 1847, is 15,634 feet. This is the mean height of the great plain of Kyang, which extends from the foot of the Thung-lung Pass to the fords of the Sum-Gal, a length of 35 miles. It is also the height of the plains around the *Tsho-kar*, or White Lake, and of the long sloping plains from the Lanák ridge to the Para river. Rukchu is bounded on the north by Ladák Proper, on the east by the Chinese district of Chumurti, on the south by Lahul and Spiti, and on the west by Zanskar. Its length from the Thung-lung Pass to the head of the Hanlé river is 90 miles, and its mean breadth about 62 miles, which give an area of 5,500 square miles.

Purik, *Suru*, and *Dras*† are three small districts to

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* *Zangs-dKar*, "copper-white."

103 † These names are not all Tibetan, as Dras is the Kashmiri name for the district of *Hem-babs*. In Tibetan they are written *Pu-rig; Su-ru;* and *Hem-babs*. The last name means "snow-fed or snow-descended,"

634 131 133 the west of Zanskar, on the high road between Kashmir and Lé. To *Purik* belong the villages of the Waka and Phugal rivers, from their sources in the transverse range of Singgé Lá to Kargyil, below their junction. The principal places in Purik are Mulbil, Paskyum, and Sod, each of which once had a petty chief of its own. *Suru* also owned a petty chief who lived at Lung Kartse, the principal place in the valley. The river is sometimes called by this name, but more generally by that of Suru. The Suru river joins the Waka-chu immediately below Kargyil. *Dras* is the most westerly of these small [103] districts. Its Tibetan name of Hem-babs (snow-fed or snow descended) is descriptive of its most striking peculiarity, as the most snowy district of Ladák. [132] It owes this peculiarity to the great depression in the Himálaya, at the head of the Dras river, which allows the constantly humid vapours of Kashmir to pass to the north of the mountains, where they become condensed by the cold, and are precipitated in rain or snow, according to the season of the year. These small districts extend in length from the frontier of Balti to Zanskar, a distance of 84 miles, and in breadth from the head of the Suru valley to the Photo-la, a distance of 50 miles. The area is 4,200 square miles, and the mean height of the inhabited parts, as determined by the elevation of thirteen camps, is 11,196 feet.

*Spiti** is bounded on the north by Rukchu, on the

Hem being the Sanscrit *Hima*, which has long been naturalized in Tibet. See Csoma's Tibetan Dictionary, *in voce*.

* *Spi-ti*. In Kullu and Kanáwar this district is generally called Piti, but the proper name is Spiti.

634 west by Lahul and Kullu, on the south by Kanáwar,
131 and on the east by the Chinese district of Chumurti. It
133 comprises the whole valley of the Spiti river, from its
source to the junction of the Para, a length of about 64
miles. Its mean length is not more than 52 miles, and
its mean breadth only 36 miles, which give an area of
about 1,900 square miles. The mean elevation of the
inhabited parts, as determined by the heights of eight
camps, is 12,986 feet.

Lahul (or Lho-yul, the "southern district") is
bounded on the north by Zanskar and Rukchu, on the
west by Káshtwár, on the south by Chamba and Kullu,
[744] and on the east by Spiti. It comprises the valleys of
the Chandra and Bhaga rivers, as well as that of the
Chandra-Bhaga or united stream as far as Treloknáth,
below which the people are of Hindu race and religion,
[134] with but little admixture of Tibetan blood. With the
single exception of the valley of the Indus, Lahul possesses
more cultivable land, and a less rigorous climate
137 than any of the other districts of Ladák. There the
currant and the gooseberry are both found wild, and in
the lower parts of the valley towards Treloknáth the
132 mountain slopes are covered with fir trees. Like Kanáwar,
Lahul partakes somewhat of the climate and productions
101 of India as well as of those of Tibet. The
people, their language, and their dwellings are mostly
Tibetan, but with a strong mixture of Indian origin.
634 Lahul is 68 miles in length by 34 in breadth, which
131 give an area of 2,312 square miles. The mean elevation
133 of its inhabited parts, as determined by the heights of
nine camps, is 11,063 feet.

634 The following table of the extent and mean elevation
133

of the different districts of Ladák is added for the sake of comparison. 634 133

		Extent in sq. miles.		Mean height.
M. Guláb Sing.	Nubra	9,216		12,763
	Ladák	3,960		11,500
	Zanskar	3,080		13,154
	Rukchu	5,580		15,634
	Purik-Suru-Dras	4,200		11,196
			26,036	
British.	Spiti	2,312		12,986
	Láhul	1,872		11,063
			4,184	
	Total sq. miles		30,220	Mean height 12,613

5.—NEIGHBOURING COUNTRIES.

The countries to the north, the west, and the south of Ladák are inhabited by people who speak at least four languages quite distinct from Tibetan. To the north the people of Yarkand and Kotan speak Turki; to the west, beyond Balti, the people of Astor, Gilget, and Hunza Nager speak different dialects of Dardu, while the Kashmiris have a language peculiar to themselves; and to the south the people of Chamba, Kullu, and Bisahar speak a dialect of Hindi, which is chiefly derived from Sanskrit. To the east and south-east the people of Rudok, Chang-Thang, and Ngari speak Tibetan only. 000

To the north of the Kárákoram range, lie the Chinese districts of Yarkand, Kotan, and Káshgár, which, with the exception of the Chinese functionaries, and Tartar soldiers, are wholly peopled by Musulmáns. As I found it difficult to obtain any truth-like information regarding the statistics of these countries, I confined my inquiries to their natural productions, in the hope of meeting with

1: Cunningham G-3 (1846-47) 1854 AJ4 W. Tibetans AJ4

average elevation of the range by more than thirty-four /33x feet. By striking out this one observation, the average height will be 15,054 feet.

The elevation of this range is of considerable import- /33 ance in determining the long-unsettled question of the /32 snow-line, which, on the joint authority of the great Humboldt and the learned Colebrook, had been fixed at 13,000 feet, between 30½ and 32° of latitude. Lieut. Richard Strachey,* of the Engineers, was the first to correct this error, and to determine by observation that "the height of the snow-line on the more prominent points of the southern end of the belt, may be fairly reckoned at 16,000 feet, at the very least." This conclusion is fully borne out by my own observations, one half of which were made before the publication of Lieut. Strachey's paper. The ascertained height of the Dhaola Dhár, which rises abruptly from the low plains of Kangra, 3,000 feet, to a mean elevation of 15,000 feet, and of 16,000 feet in its loftiest peaks, proves most clearly that the snow-line, in the southern Himálaya, cannot be under 16,000 feet.

The geological structure of this range is almost un- /33x known. In 1839, when I descended the valley of the Rávi, along the northern spurs of the Dhaola Dhár, I noted that the whole of the formations, at from 3,000 to 8,000 feet, were of clay and mica slates, and mostly of a very fine description, well adapted for roofing. The crest of the ridge is, however, most probably granite and gneiss, both of which I found on crossing the Chúari

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* Journal Asiat. Soc. Bengal, vol. xviii. p. 292. Since the publication of this paper, however, Alex. Keith Johnston, in his beautiful Physical Atlas, p. 16, has stated the height of the southern snow-line on the Himálaya at 15,000 feet.

133x unknown; but from the neighbourhood of Ruthog to its north-western extremity beyond Pangmik, the Pangkong Lake is not less than eighty-five miles in length, with an average breadth of about three miles.* The extent of the known portion is, therefore, upwards of 250 square miles, or about the same size as the holy lake of Manasarovara. [103] The superior size of this lake may be inferred from the probable etymology of its name, *Pang-kong*, which means the "extensive concavity" or hollow; or *Pang-khung*, the "extensive pit." The water is clear and extremely salt.† This lake has been surveyed by Captain H. Strachey, whose observations place it at an elevation of 14,224 feet above the sea. In former ages there can be no doubt that the Pangkong Lake had an outlet at its north-western extremity, through a gorge in the limestone cliffs,‡ into the present scanty stream that passes by Muglib, and joins the Shayok river just above the village, which gives its name to the stream. At some remote period, therefore, the waters of the Pangkong Lake must have been fresh; a fact which has been placed beyond all doubt by Captain H. Strachey's discovery of fossil shells of *Lymnæa auricularia* in the ancient clay deposits above the present level of the lake. The mountain-ranges at the north-western extremity of the lake are of limestone, which probably affects the waters of the lake, as the small pebbles on its shores are firmly united together by calcareous matter.

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● 133 The *Tsho-Rul*,§ or "Bitter Lake," is situated about five miles to the south of Pangkong. It is about sixteen miles in length, and somewhat less than two miles in breadth.

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* Moorcroft, I. p. 435.

† Ibid. I. pp. 434-35.

‡ This gorge was traversed by Moorcroft (I. 434.)

§ *Rui-ba* bad, fetid, bitter.

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[133]

From Lhasa, which I do not think can be less than ten or eleven thousand feet above the sea, the road ascends the Sanpu river, past Tashi Lhunpo and Gáldán to its source on the eastern face of the Kailas mountain. It then crosses this mountain to the northern bank of the holy Manasarovara Lake (15,200 feet). The direct distance between these points on the map is upwards of 10° of longitude, which in the 30th degree of latitude are equal to 600 English miles, to which one-half* more must be added for the windings and ascents and descents of a road in a mountainous country. This will give a distance of 900 miles, equal to a journey of three months, which the people always state it to be. From the Manasarovara Lake to Garo the road has been traversed by Moorcroft. The distance is about 110 miles, or ten days' journey—past the Lake of Rawan Hrad, and over several lofty spurs of the Kailas range, which give rise to numerous small feeders of the Sutluj and Indus. Garo itself is situated, according to my information, on the main branch of the Indus, which is there called the Higong-chu or Higong river, simply because it flows past the village of that name. From Garo to Chibra, and thence to Lé, the road lies down the valley of the Indus, and generally along the bank of the river. The distance from Garo to Lé is not less than 350 miles, or

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* This is not a mere assumption, but a fact deduced from actual surveys. Thus my survey makes the distance between Lé and Kashmir 228 English miles. The difference of longitude is 2° 40′, which, in the latitude of 34°, is equal to 154 miles; to which by adding one-half more, we obtain 231 miles, which is within three miles of the actual measurement. Again, the difference of latitude between Mandi and Lé is 2° 30′, equal to 174 English miles. By adding one-half more, we obtain 260 miles, the measured distance, according to my survey, being 283 miles.

1: Cunningham G-3 (1846-47) 1854 AJ4 W. Tibetans AJ4

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			Miles.	
	Brought forward ...	93	=139½	
15	Khafalun	9	= 13½	
16	Aktagh	10	= 15	
17	Surighout	9	= 13½	
18	Camp	7	= 10½	foot of Karakoram Pass.
		128	=192 miles.	
1	Camp to S. of Pass ...	10	= 15	
2	Yapchan	10	= 15	
3	Khundan	10	= 15	right bank of Shayok.
4	Chong Tash	9	= 13½	right ditto.
5	Yartobi	7	= 10½	
6	Mandalik	5	= 7½	left ditto.
7	Dong Bailak	10	= 15	left ditto.
8	Chong Aolang ...	9	= 13½	right ditto.
9	Chong Jangal ...	4	= 6	right ditto.
10	Chunchar	9	= 13½	right ditto.
11	Dakchu Dunga ...	4	= 6	right ditto.
12	Adgam	7	= 10½	left ditto.
13	Digar	...	4½	
14	Camp	...	12	
15	Lahu	...	7½	cross a Pass.
16	Lé	...	7½	
	Karakoram to Lé	...	172½	miles.
18	Yarkand to Karakoram	...	192	
	34 marches. Total	...	364½	miles.

Dr. Thomson's route from Lé to Karakoram Pass is a more direct one, and consequently a shorter one; the whole distance being only 147½ miles, or twenty-five miles less than Izzet Ullah's route. But the longer route up the Khundan river had the advantage of being tolerably level, whereas the present route crosses no less than three lofty passes, and is besides much more rugged and difficult. The Karakoram Pass is not less than 18,600 feet above the sea, and it is perhaps very nearly 19,000 feet high.

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133

491 upper course of the river, which is crossed a second time, and over another range of mountains to the head of the Charpa river. From the bed of the Charpa different routes were followed over the mountains to the upper and uninhabited course of the Chandra river, from whence the northern road leads over the Bara Lacha Pass into Láhul, and the southern road direct into Kullu by the Parbati river.

IX.—PASSES.

● /33 A Pass in Tibetan is called *Lá*. The crest of a Pass is named *La-tse,* and the foot of a Pass *La-tsa.** The last word is variously pronounced: by some it is called Larsa, of which spelling many examples may be found in our maps at the bottom of Passes; by others it is called Lacha, as in Bara Lacha (for Bara Latsa). Others again pronounce the *s* distinctly; which last has given rise to Dr. Gerard's spelling of Para Lassa. *Rong* is a defile, and *chong-rong* is a narrow defile. The principal passes have already been mentioned in my description of the high-roads of Ladák; but a tabular enumeration of them may be useful for comparison.

Names.	Heights.	Authorities.	Positions.
Karakoram ...	18,660	Dr. Thomson ...	Head of Shayok river.
Sasaar	17,500	Ditto ...	between Nubra and Shayok river.
Hanu	16,890	Col. Bates ...	between Indus and Shayok river.
Lé Pass ...	17,666	Dr. Thomson ...	between Lé and Nubra.
Lazgung ...	17,500	(estimated) ...	ditto ditto.

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* *Lá* is the simple form. *La-rTse,* is the crest of a Pass.

1: Cunningham G-3 (1846-47) 1854 AJ4 W. Tibetans AJ4

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Names.	Heights.	Authorities.	Positions.
Changlá ...	18,105	Moorcroft, MS.	between Indus and Long Kongma.
Kongta-la ...	15,495	Ditto ...	between Long Kongma and Chushal.
Singgé ...	16,952	Dr. Thomson ...	between Zanskar and Lama Yurru.
Vinggé ...	—		
Pangache ...	16,495	Dr. Thomson ...	in Zanskar.
Photo Lá ...	13,240	A. Cunningham	between Kashmir and Lé.
Namyika ...	13,000	Ditto ...	ditto ditto.
Thung Lung ...	17,500	Ditto ...	South of Lé.
Polokonka ...	16,500	Ditto ...	near the Tsho-kar.
Nakpo Gonding	18,000	Ditto ...	to North of Tshomo Riri lake.
Lanak	18,746	Ditto ...	between Tshomo Riri and Hanle.
Lunga Lácha ...	17,000	Ditto ...	between Zanskar and Rukchu.
Párang Lá ...	18,502	Ditto ...	North of Spiti.
Bára Lacha ...	16,500	Ditto ...	between Lahul and Zanskar.
Umási Lá ...	18,123	Dr. Thomson ...	between Kashtwar and Zanskar.
Seoji Lá ...	11,634	A. Cunningham	between Kashmir and Dras.
Harapo Lá ...	12,104	Col. Bates ...	in Astor.
Kutzum ...	14,851	Capt. Broome ...	between Lahul and Spiti.
Manerang ...	18,612	A. Gerard ...	between Kanawar and Spiti.
Tari Pass ...	15,282	Lieut. Maclagan	ditto ditto.
Rotang Joth ...	13,000	A. Cunningham	between Kullu and Lahul.
~~Kali~~ Joth ...	16,700	Ditto ...	between Lahul and Chamba.
Saj Joth ...	15,500	Dr. Thomson ...	ditto ditto.
Pir Panjal ...	11,970	A. Cunningham	South of Kashmir.
Tural Pass ...	14,808	Ditto ...	between Kangra and Chamba.

132 six months of the sun's southern declination. These are the monsoons or seasonal winds, which depend entirely upon the sun's position in the ecliptic; the south-westerly monsoon being the summer wind, and the north-easterly monsoon the winter wind. But the alternation of the day-and-night wind throughout Ladák is constant throughout the year; and as the subject is one of some interest, I will here attempt to explain what appears to me to be the cause that generates it, and that afterwards carries it round all the points of the compass.

[133] This cause is, I believe, the great mid-day radiation of heat from the bare surface of the vastly elevated plains of Ladák and the neighbouring districts, which have a mean height of 13,000 feet above the sea. The following table shows the extent and mean elevation of these great masses of table-land.

EXTENT AND MEAN HEIGHT OF THE TIBETAN TABLE-LAND.

Districts.	Extent.		Height.	
	Sq. miles.	Total.	Sq. miles.	Mean.
Rukchu	5,580		15,634	
Gáro	6,500		15,500	
Rudok	4,800		14,500	
		16,880		15,211
Zanskár	3,080		13,154	
Spiti	2,312		12,986	
Nubra	9,216		12,763	
Ngári	9,000		12,500	
		23,608		12,851
Ladák	3,960		11,500	
Purik	4,200		11,196	
Láhul	1,872		10,535	
		10,032		11,077
	Sq. miles	50,520	Mn. height	13,026

1: Cunningham G-3 (1846-47) 1854 AJ4 W. Tibetan: AJ4

VII.—SUPPOSED MILDNESS OF FORMER CLIMATE.

132 Various circumstances induce me to believe that the climate of Ladák was formerly much milder and much
172 less dry than it is at present. The occurrence of vast quantities of fossil *fresh-water* shells in the sandy alluvium above the level of the present *salt-water* lakes of Ladák, proves that these lakes must once have been very extensive sheets of fresh water. In the case of the *Tsho-kar* or "White Lake," this is proved beyond all doubt, by the occurrence of fossil shells on the plain of Kyang, and in the deep gorge through which the waters of the lake once had exit into this place. As the plain itself had a gradual slope from the foot of the Thung-Lung Pass to the Sumgal River, the whole extent of this double lake can be seen by a glance at the accompanying sketch-map,* which illustrates the ancient lake system of Ladák in those parts of the country which I have visited.

133 1. The *Kyang-Tsho* formerly extended from the foot of the Thung-Lung Pass to near the source of the Sumgal River, a length of thirty-five miles. It is difficult to ascertain the mean breadth, but it must have been about five miles. This would give an area of 175 square miles.

2. The *Tsho-kar* formerly flowed into the Kyang-Tsho, and was about twenty-five miles in length by five miles in breadth. The old beach-marks are distinctly visible on the mountain-sides, both to the north and south of the lake. I traversed along the southern end of the Tsho-kar in two different directions in 1846, and in 1847 along the northern end, and through the gorge which

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* See Plate VI.

1: Cunningham G-3 (1846-47) 1854 AJ4 W. Tibetans AJ4

formed its old exit into the Kyang-Tsho. Its principal feeder is a small fresh-water lake to the south, which once formed part of the old lake. The greatest extent of the Tsho-kar must have been about twenty-five miles by five miles, or 125 square miles. The two lakes together covered about 300 square miles.

3. The *Tshomo-Riri* formerly included a small salt-water lake, now lying about eight miles to the northward of it. The greatest extent was about twenty-five miles by five miles, or 125 square miles. It seems highly probable that it once had an exit from its southern end into the Párá River, or perhaps into the Sumgal River.

4. The *Hanlé* Lake is still of considerable size; but the clay deposits, which are found adhering in horizontal strata to the small isolated hills in the middle of the valley, and in sheltered positions at the sides, show that this lake must once have been one of the largest sheets of water in Ladák. Its greatest extent must have been about twenty-five miles by twelve miles, or 300 square miles, with a mean depth of at least 100 feet.

5. *Lam-Tsho* is now only a small piece of fresh water, but it was most probably once a fine sheet of water about fifteen miles long by three miles broad, or forty-five square miles in extent.

6. The bed of the Indus, like that of all the other rivers, has once been crowded with a series of lakes. Two of these which came under my observation are shown in Plate VI. The smaller one must have filled the valley, opposite Nyimo and Mûd, for a length of twenty-five miles by three miles, or for about seventy-five square miles.

7. Above Lé, the vast plain of Chachot must once have

133 been covered with water for some miles above Marchalang down to Lé and Pitak. At Pitak, the lacustrine deposits of fine clay are still adhering to the rocks in horizontal strata, to a height of 750 feet above the level of the river. The whole extent must have been about thirty-five miles by six miles, or 210 square miles. Below Pitak, the former channel of the Indus can be traced for many miles, by Phyang and Tharu, to Nyimo.

It is impossible to say what may have been the whole extent of the former lakes of Ladák, but as the ancient lakes of Rukchu, which I have described, must have covered a space of 840 square miles, or nearly one-sixth of the whole extent of the district, a vague idea may be formed of the general extent of the lake system, which must once have prevailed over Ladák. The vast lake of Pang-kong was probably not less than twenty miles in breadth by 100 miles in length, and must have covered an area of 2,000 square miles. This lake, with the others which I have described, would have occupied about one-tenth of the whole extent of the country.

The former existence of these vast sheets of fresh water rests neither upon general appearances nor upon the vague assertions of tradition, but upon the distinct evidences of vast beds of fine clay, which are found adhering to the rocks in horizontal strata, and which could only have been deposited in comparatively still water. Their existence is further proved by the [170] abundance of fossil *fresh-water* shells that are found in the sandy clay deposits around the present *salt-water* lakes, and on the dry plain of Kyang. These shells are of two kinds,—*Lymnæa auricularia* of all sizes, and

Cyclas rivicola, which is only found of very small size [133] preserved in the interior of the larger shells.* As these [172] mollusca do not now exist in Ladák at a greater elevation than between eleven and twelve thousand feet, it 132 seems a probable conclusion that the country must at some former period have enjoyed a very much milder climate than that of the present day. This conclusion might indeed have been deduced from the former existence of the vast lakes which have been described. For the waters vapourized by the sun must have been condensed by the cold of night, and the plains would then have been fertilized by rain, and the mountains covered by snow. Numerous streams would have flowed down the hill-sides in all directions, and the overflowing lakes would have formed mighty rivers.

Throughout Ladák there are numbers of vast ravines, 133 many of them 500 feet deep, and as many yards broad, which could not possibly have been formed by the scanty brooks that are now nearly lost in their meanderings from side to side of these enormous channels. In one of these vast river-beds the scanty rill of the Sum-gal now purls along at the southern end of the plain of Kyang. The sides of this channel are masses of alluvial boulders and gravel, which once formed the bed of the Kyang-Tsho. The rocky barrier, below the junction of the Sum-gal rivers, was probably worn away, gradually at first, until the plain of Kyang became almost dry: after which, on the occurrence of any sudden disruption, the waters of the Sum-gal would have rushed violently onward, cutting for themselves a deep channel in the soft bed of the lake. The Kyang-Tsho must have been

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* See Plate IX. for these shells.

● /33 gradually drained; but I have a suspicion that the Tshomo-Riri Lake once had an exit into the Sum-gal, and that its accumulated waters were suddenly drained off by the disruption of the Sum-gal barrier. That the subsidence of the waters of the Kyang-Tsho must have been very gradual is proved by the abundance of shells now lying on the upper part of the plain, all of which would have been swept away by even a moderate current. Is it possible that the whole mass of the country can have been gradually elevated?

MOLLUSCA.

136 172 The only existing mollusk I observed in Ladák was the *Lymnæa auricularia*. In Plate IX. I have given three specimens, from Pitak and Nubra in Ladák, and from Skardo in Balti. Beside them I have placed for comparison a specimen of the same mollusk from Kashmir; and above them two extinct specimens from the old lacustrine formations on the banks of the *Thogji Chenmo* and *Pangong* salt lakes. The superior size of the Kashmir specimen is perhaps no more than might be expected from the greater mildness of the climate; but that of the extinct species is most remarkable. The largest existing specimen from Pitak measures only six-eighths of an inch in length, and rather less than five-eighths in breadth; whereas the extinct specimens are upwards of an inch in length, and more than three-quarters of an inch in breadth.

These fresh-water fossil shells are found in a fine yellow sandy clay, many feet above the present level of the salt-water lakes. When they existed, the lake of Thogji Chenmo must have been a noble sheet of fresh water, upwards of forty miles in length by about twenty miles in extreme breadth, covering the whole plain of Kyung, from the foot of the Thung-Lung Pass to the rocky glen of the Sumgyel (triple junction) River. These fossil shells are now lying in myriads in the narrow pass between the old bed of the Thogji Lake and the plain of Kyung, and they are equally numerous in the upper part of the plain of Kyung.

133 132 172 At what period these vast plains were covered with water will be an interesting subject of inquiry for the geologist; but the mind gets bewildered in trying

133 to pierce the infinite obscurity of bygone ages. One
132 point alone seems clear; that when all these lakes
172 existed, more moisture must have been evaporated, and
more snow must have fallen as well as more rain; and the humid atmosphere would have produced a milder climate more favourable to animal and vegetable life. The hills would, perhaps, have been clothed with trees, and the still waters of the magnificent lakes would have teemed with myriads of *Lymnæa*, of which only the shells now remain. But the gradual wearing down of the water-courses, and the continual bursting of the lakes, have nearly dried up all the primeval waters of Ladák; and the consequent loss of moisture has occasioned the present general scarcity of rain and snow, and that extreme dryness of atmosphere which has caused the total dearth of trees. The only sheets of water that now exist are landlocked and salt.

172 A second extinct species of shell is a bivalve (*Cyclus*); but as all the specimens that have been found were preserved inside the *Lymnæa*, they are necessarily small; it is now perhaps impossible to determine exactly whether they are river or lake shells.

Fossil shells are also found in the fine clay deposits near Skardo, of which I have given a specimen in Fig. 4, Plate IX., which contains a *Planorbis* and a *Luccinea* (or perhaps a small *Lymnæa*). One specimen of the existing Planorbis of Skardo is given in Fig. 9.

DOMESTIC ANIMALS.

231 The domestic animals of Ladák are ponies, asses, oxen, sheep, goats, and dogs. The Argons, or mixed race of half-Kashmiris half-Botis, resident at Lé, now keep a number of common fowls, but they have only

arrangement serves with them for a hinge. 000

[62] HOE--pharooa (large spade-like implement for digging) thoktsey (small narrow implement used for weeding or digging up earth round roots of flowers, etc.). 241

[63]
HOT SPRING--chhootshan. There are a good many of these, the principal ones being at Pooga, Panámik, Changlung ShooSHól, and Kiám. The Kiám spring which is the hottest, has a temperature of 179° and is impregnated with soda and sulphur. 133

HOUR--chhootshot i.e., water measure--so called because the Dógras, who first taught the Tibetans to count time by the hour, used for an hour glass, a brass bowl so made, with a small hole in it, that when placed in a pan of water, it floated for exactly an hour, after which owing to the weight of water gradually taken in through the hole, it sank. 804 177

HOUSE--khángpa or khampa (general), khar (of a king), zimskhang (of a great man), táSHak (of a Láma not residing in a monastery) zimSHak or zimSHung (of a "skooSHok" or "incarnation". These persons never live in a monastery but have quarters close by) khángzhik or khángoo(a small hut)GHunsa (the word means "winter place" and is used to indicate the house in a village occupied by a villager during the winter) yártsa (meaning "summer place" is used to indicate the house out in the fields, where the cultivator lives during the summer, so as to be near his work). 342

HOVEL--khángoo or khangzhik (a small and poor house) pooloo (the small dry stone wall shelter-places to be found near the tops of mountain passes and in other out of the way places, sometimes with slab-stone roof, generally without any roof, but never containing any wood work, as this would inevitably be stolen and used for fire-wood).

[64]
HUSBAND--toks or troks or zhidmat. The words mean also "wife". 601
Polyandry is almost universally practised among the Buddhists 590
of Ladák. Matrimony and the law of entail (which see) are 428
closely connected. The eldest son inherits the whole of the 583
family property, and he it is who is entitled to marry a wife.

6: Gazetteer G-5 (ca.1840-1883)1883-4 AJ4 W. Tibetans AJ4

PART III.—LAHAUL AND SPITI.

CHAPTER I.

THE DISTRICT.

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The District.
General description.

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The cantons or *wazírís* of Láhaul and Spiti together form the trans-Himalayan division of the Kángra district. Láhaul lies between north latitude 32° 8′ and 32° 59′ and east longitude 76° 49′ and 77° 47′, and comprises an area of 2,255 square miles and a population of 5,860 souls, or 2·6 to the square mile; while Spiti lies between north latitude 31° 42′ and 32° 58′ and east longitude 77° 21′ and 78° 35′; its area is 2,155 square miles and its population 2,862 souls or 1·3 per square mile. The two together occupy the trough between the central and outer-Himalayas, and form a long oblong, of an average length of about 105 miles, and breadth of about 38 miles. It is shut in to the north, and divided from Ladákh and Chinese Tibet by the great snowy range called by General Cunningham the western Himalaya, and recognized by him as the continuation above the Satlaj of the main central-Himalaya. This range has here a mean elevation of more than 18,000 feet. To the south and east, except at the north-east corner where the Spiti river escapes into Tibet, it is shut in and divided from Chamba, Bangáhal, Kúlu and Kanáwar by the mid-Himalaya, which has a mean elevation of more than 17,000 feet. To the west it borders on Chamba-Láhaul, from which it is separated by a lofty off-shoot from the outer-Himalayas, which advances to meet the central range, leaving only a narrow gap through which the waters of the Chenáb escape. In the middle it is cut in two by a ridge, some four or five miles long and 15,000 feet high, which connects the ends of two high spurs thrown out by the great chains above mentioned. This ridge, which is generally known as the Kanzám or Pálamo ridge, from the names of the passes which cross it, forms the boundary between Láhaul and Spiti. The boundary line given in the Trigonometrical Survey maps gives Spiti near a hundred square miles of waste to the west of the Kanzám ridge, on the banks of the Chandra; but in revision of Settlement, with the assent of the headmen of both *wazírís*, Mr. Lyall recorded the Kanzám ridge, which is the water-shed line between the Chandra and Spiti rivers, as the true boundary. It is generally allowed on both sides that the ridge is the ancient boundary; it is also the natural one, and moreover the Gaddí shepherds, who for twenty years have grazed in the debated land, have been paying dues to the *wazír* of Láhaul, and not to him of Spiti. These two *wazírís*, have each in many respects a character of their own, and deserve a separate description.

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Configuration and sub-divisions of wazíri Láhaul.

131 Láhaul contains the head-waters of the Chenáb river, and is made up of three valleys—the valley of the Bhága river, the valley 101 of the Chandra, the valley of the united Chandra-Bhága or Chenáb. There is also a tract of more than a hundred square miles of entirely ·133 uninhabited waste, which is not attached to either of these valleys, and is situated on the north side of the western Himalaya below the Bára Lácha pass; this is generally known as Lingti. The [648] question whether this tract belonged to British India or to Ladákh was disputed, but was eventually decided in our favour. It is wholly uninhabited. The streams of this tract are tributaries of the Zánskár river which falls into the Indus; so that it will be seen that all the six great rivers of the Punjáb, except the Jhelam, draw some part of their waters from the Kángra district. The Chandra and Bhága rivers rise on opposite side of the Bára Lácha pass, at an elevation of nearly 16,500 feet above the sea. The Bhága flows south-west for 56 miles, with an average fall of 125 feet per mile; the Chandra, with an average fall of only 65 feet per mile, flows first to the south-east for 55 miles till it is turned by the mid-Himalaya at Shigri, and then sweeps along the base of that range to the north-west for sixty miles to Tándi, its point of junction with the Bhága. All along this latter part of its course the mid-Himalaya hangs close over the Chandra: opposite Gondla it rises like a wall a full 11,000 feet above the river bed; such a sheer rise is to be seen in few other places in the world. From Tánd to Tirot, on the border of British and Chamba-Láhaul, the united rivers run some sixteen miles with a fall of about 80 feet per mile.

133 The great triangle formed by the Chandra and Bhága is filled up by an off-shoot from the western Himalaya joined to the main chain at the Bára Lácha pass; its peaks rise to 21, 20 and 19,000 feet, and its numerous lateral valleys are all filled with glaciers. It is described as "one great ice-bed, broken here and there by lofty heights of impassable rock and snow. To the south of the highest peak, 21,415 feet, stretches a vast glacier 12 miles in length, which is met by another of even greater dimensions." The most noted [778] peak, though not the highest, is the Gephán Lhá, or God Gephán, in whose honour the Láhaulis hold feasts and make sacrifices. This is the peak which can be seen from the Kúlu valley through a gap in the mid-Himalaya. The most noted glacier in Láhaul is that known as the big Shigri at the bend of the Chandra on the south side. It is nearly two miles wide and runs right down to the river; within the memory of many men alive it caused a cataclysm, the marks of which are still plainly visible throughout Láhaul at a great height [311] above the level of the river. For the first thirty miles of the course of the Bhága and the first seventy-five miles of that of the Chandra, the country is and probably always will be entirely uninhabited; not a bush even is to be seen, but the grass, though it looks scanty and disappears at no great height above the bottom of the valley, is in most places of a kind upon which sheep and goats thrive wonderfully. In July and August therefore these wastes, and also the wastes lower down behind the villages, are visited by shepherds from Kúlu and Gaddí shepherds from Kángra. There are three small

6: Gazetteer G-5 (ca. 1840-1883) 1883-4 AJ4 W. Tibetans AJ4

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Configuration and sub-divisions of ***wazíri*** **Láhaul.**

lakes in this country, two on the Bhága and one on the Chandra near the Pálamo pass. This last is much the largest, being three quarters of a mile or more long. The water in all is fresh and very clear. In this vast region of alps and ice, it will be readily understood that habitable spots and cultivated fields are few and far between. They are found only in the lower valleys of the Chandra and Bhága, the remainder of the canton being desolate and completely uninhabited, save when, for a few weeks in summer, the Kúlu shepherds bring up their flocks for pasturage. The inhabited part of the Chandra valley is called by Láhaulis Rangloi, that of the Bhága, Gárá, and that of the Chandra-Bhága, Pattan. 133 [167]

The scenery in Láhaul is almost oppressive from its grandeur, and it is wild and desolate, for the villages and cultivated lands are mere specks on these vast mountain slopes. But there is something pretty and smiling about the near view of the villages, especially in Pattan and the lower part of Gárá. There is nothing striking in the flat-roofed two-storeyed houses, which are massed together in one or two blocks, so as to give in-door communication in winter; but the clumps of pollard willows standing in plots of smooth green turf, and the terraced fields neatly kept and waving with thick crops of wheat or barley, are pleasant to look at. On the banks of the fields and under the small canals are the *dang* or hay fields, in which the grass grows luxuriantly, mixed with bright flowers as in an English meadow, and here and there in bush or hedge are wild roses, bright crimson or bright yellow, and wild currant or gooseberry trees. Wherever water is brought, all this verdure springs up, but without irrigation the ground is so nearly barren that not only no crop will grow, but there is so little grass that at a short distance you would think there was no green thing on it. This description, however, does not apply to the upper villages in Gárá and the greater part of Rangloi; here there are few or no trees or bushes round the villages which have a very bleak look, but the grass grows thick and green on the hills without irrigation. In a few places the slopes immediately above the villages are thinly covered with *kail* (*Pinus excelsa*) or pencil cedar (*Juniper excelsa*) and higher up, here and there, there are patches of birch wood. Near the villages on the road-sides are long dykes or walls of stone from four to five feet high and a yard or more broad, on the top of which are placed slabs or round stones, on which the *ommáni pádme hún* and other Buddhist texts or *mantras* are inscribed. *Chudhten* or *Dangten*, which are curiously-shaped conical-buildings erected in honour of some saint or incarnation or as the mausoleum or relic temple of some *lámá* or great man, are found in the same situations. Above the villages, sometimes on the hillside and often under the shade or on the very face of a precipice, are seen the *gonpas* or monasteries of the *lámás* with flags flying and whitewashed walls. The average elevation of the cultivated and inhabited portion of Láhaul is estimated by General Cunningham at over 11,000 feet. Mr. Lyall, on the other hand, puts it at something less than 10,000. The highest villages are in the lower part of the valley of the Bhága, where one, named Kangser, is mentioned by Mr. Lyall at an elevation 361 137 311 [312] [417] [846] 133 361

6: Gazetteer G-5 (ca. 1840-1883) 1883-4 AJ4 W. Tibetans AJ4

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The Chandra and Bhága.

of 11,345 feet. Darcha and Khoksar, the highest villages in the upper valleys respectively of the Bhága and Chandra, are about 10,800 feet above the sea.

The source of the Chandra is in a huge snow-bed, more than 16,000 feet above the sea, on the south-east slopes of the Bára Lácha pass. From its very commencement a considerable stream, it becomes quite unfordable a mile from its source. Its course is south-east as far as the angle between the Kanzam range and the mid-Himalaya, a distance of 55 miles. Here, turned by the mountains, the river sweeps round to the north-west and skirts the base of the mid-Himalaya until it is joined by the Bhága at Tándi after a course of 115 miles. Its fall from its source to Tándi averages only 65 feet per mile. For the first 75 miles the valley of the Chandra is entirely uninhabited; the hills sweep down wild and barren to the river, and end in broken cliffs, the base of which is choked with the *débris* of decomposing rock. Above, the scene is equally desolate. Not a tree or a bush breaks the monotony of the bleak hill sides, and grass even disappears at no great height. The pasturage, however, though scanty in appearance, is of a quality much valued for sheep and goats, and is annually sought by large flocks driven up in July and August from Kúlu and even Kángra. A lake, called the Chandra Tal, near the Pálamo pass, is a favourite halting-place for the shepherds. The lake is three-quarters of a mile or more in length and of considerable width. It is fed by springs and the melting snows, and the surplus water runs by an outlet into the Chandra.

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The first signs of permanent habitations are met with opposite the Hamtá pass at old Khoksar, where there is a village occupied by five families some 14 miles above Koksar at the foot of the Rohtang pass. Here "the river enters on a less uninviting country; the valley widens considerably in several places, and there is a good deal of cultivated ground on the right bank, while on the left are a few scattered trees." As Ghondla is approached the country on the northern side still opens, and cultivation increases. The hamlets are larger, and the houses better built, and surrounded with groves of *pípal* and willow. The northern mountains too take a gentler slope; but on the south, on the other hand, they hang over the river, in precipitous masses. Opposite Ghondla a precipice rises like a wall 11,000 feet sheer above the river-bed.

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The glaciers of the hills in the interior threaten the river in more places than one. The most noted glacier is that known as the *big shigri** at the south-eastern extremity of the interior range of hills. A fall of this glacier in 1836 caused a stoppage in the course of the river, and a cataclysm, the marks of which are still plainly visible throughout Láhaul at a great height above the level of the river. Captain Harcourt, who crossed the glacier in 1869, puts its width at nearly two miles; and, he adds, it "is steadily subsiding, and every year is getting lower and lower". In another passage, after alluding to the cataclysm of 1836, he says: "There can be little doubt, judging from the quantity of ice collected on the flanks

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* *Shigri* is the local term for any glacier.

of the mountains that bound the river, that at any day such a disaster may again occur."

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The Chandra and Bhága. 133 ● 361

of the mountains that bound the river, that at any day such a disaster may again occur."

The Bhága, rising on the north-west slopes of the Bára Lácha pass, has a course of 65 miles to Tándi, and an average fall of 125 feet per mile. For 30 miles, the valley resembles that of the Chandra, but in its lower part is rich in cultivation, large tracts of level and arable land lying between the mountains and the river. The banks of the stream itself are steep and rocky. It is in this valley, some five miles from Ṭándi, that Keylang, the principal village of Láhaul, is situated. The Chandra-Bhága, or Chenáb, after the junction of its two heads, continues to flow north-west with a fall of about 30 feet per mile, until at Tirot, 16 miles below Tándi, it passes into Chamba.

Bridges in Láhaul. 491

The rivers in Láhaul are crossed by means of suspension bridges of from 50 to 150 feet span, made of thick ropes of twisted birch twigs. Three ropes form the roadway, and two hand-rail ropes hang above, one on either side, and are attached to the roadway by small side ropes, fastened at intervals of a foot or two. The best of these bridges are passable for sheep and goats, and without danger if the sides are wattled in with wicker work and slabs of stone placed on the roadway. In a high wind many of them are dangerous to cross, even to a native of the country. They are called *chúgzam* in Tibetan, and *jhúlá* or *ḍuá* in Hindí. The proper *jhúlá* is a different kind of bridge, which is not used in Láhaul. It consists of a seat in a loop hanging from a wooden saddle, which rides on a cable of thick grass rope, and is pulled across by a gay line. *Gharárú* is another name for this kind of bridge, which you use in crossing the Satlaj, the U'l and other rivers. Of late years, on the main road from Kúlu to Léh, the Chandra and Bhága rivers have been bridged with *sanga* bridges passable by cattle and horses. The *sanga* is composed of whole trunks of pine or cedar built into embankments on either side of the river in double or triple tiers, each tier projecting further from the embankment and supported by a prop on the end of the tier below. Two long trunks rest on and connect the ends of the highest tiers on either side, and form the roadway.

Climate of Láhaul 133 361 132

The uppermost village in Rangloi is Purnia Khoksar, and in Gárá, Dárcha. Both these are about 10,800 feet above the sea; but there are higher villages lower down the valley in Gárá. For instance, Kangser (*i.e.*, the big house), where Wazír Tára Chand lives, has an elevation of 11,345 feet. Mr. Lyall estimates the average elevation of the cultivated or inhabited portion of Láhaul at a little less than 10,000 feet; while General Cunningham puts it at over 11,000. The mean temperature at Kardong in the valley of the Bhága is given in Messrs. Schlagintweit's tables as follows:—

March	46°	Fahrenheit.
June	59°	"
September	45°	"
December	29°	"
Year	44·9°	"

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Climate of Láhaul.

No better place than Kardong could have been selected to show the average temperature of the inhabited part of Láhaul, but the differences of temperature are very great. In the upper part of the Chandra valley near Khoksar, the snow lies round the villages till the end of May, whereas in the valley below the junction of the rivers, the cultivators contrive to sow and reap two crops during the spring, summer, and autumn. The air is very pure and dry. Meat once dried will keep for any number of years. There is very little sickness of any kind, and goitre appears to be unknown. The influence of the monsoons is hardly felt. In July and August there are a good many showers of rain in the lower part of Láhaul, and for a few miles on both sides of the Rohtang pass, through which low gap a few clouds contrive to steal. But, generally speaking, there is almost unbroken cloudless weather in the summer half of the year, and indeed up till January, when the heavy falls of snow usually commence. In some years some villages are completely buried in snow. Avalanches fall in spring and summer, and occasionally cause serious loss of life. Not many years ago a glacier slipped and utterly buried a village in the mouth of the Yácha valley, not a soul escaping. An old man who had gone up the mountain for some purpose a day or two before the catastrophe is reported to have said on returning that his heart misgave him that something was about to happen, as he had seen a band of strangely-dressed people dancing and holding high revel at the top of the glaciers, who must have been fairies. Of course the words of the seer were set at naught. According to Captain Harcourt, spring may be said to commence in Láhaul about the middle of April; frosts set in towards the close of September,

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"though the three last months of the year are generally singularly clear and fine. By January dead winter commences, and from then till April the country is covered with snow to a depth of eight or ten feet, the villages in the higher altitudes being completely submerged." The cold even in summer is at times rendered "unendurable by bitter winds, which usually spring up after mid-day, blowing like a hurricane at 3 or 4 P.M., and only subsiding into a gentle breeze after the sun has set. The nights are invariably calm and quiet."

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Configuration of wazíri Spiti.

Spiti is in shape a triangle; the side which separates it from Láhaul and Kúlu to the west being formed by the Kanzám ridge and the mid-Himalaya; the opposite side which separates it from Ladákh and Chinese Tibet, by the western Himalaya; and the base which separates it from Kanáwar, by that part of the mid-Himalaya which, under the name of the Mánirang range, runs along the north side of the Satlaj. The base measures about 58 miles, and a line from base to apex about 60 miles. The Spiti river rises in the apex of the triangle, and runs down its centre till it nears the base, where it inclines to the left and goes out at the north-east corner. In the south-west corner is the Pín valley, with its river of the same name, a tributary almost as large as the Spiti itself. Pín contains some eleven villages, and these are the only villages out of the main valley on this side, as the rest of the streams which join the Spiti from the mid-Himalaya, though of considerable length, flow in

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Configuration of *mauzá* Spiti. 361

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narrow rocky gorges shut in by high precipices. On the other side of the main valley for two-thirds of its length from the base, there are high valleys or tablelands which contain some ten villages.

The mountains of Spiti are more lofty than those of Láhaul. In the outer-Himalaya is one peak of 23,064 feet, and many along the whole line are considerably over 20,000. Of the mid-Himálaya, two peaks exceed 21,000 feet, and in the southern range the Mánirang is 21,646 feet in height. From the main ranges transverse lines of mountains project far into the valley on either side, leaving in many cases only a narrow interval through which passes the Spiti river. Even these minor ranges contain peaks, the height of which in many instances exceeds 17,000 feet. The mean elevation of the villages in Spiti is considerably higher than in Láhaul. Mr. Lyall puts it at 12,000 feet. Several villages, he says, must be more than 13,000 feet above the sea, and one or two as high as 14,000. General Cunningham gives as the mean elevation of the Spiti valley, 12,981 feet.

Rivers.

The Spiti river, by which the drainage of the whole valley is collected, rises in the angle between the Kanzam and outer Himalayan ranges at the base of a peak 20,073 feet in height, and after a south-easterly course of ten miles is joined by another stream from the south-west, of nearly equal volume, the Lichu, which drains the mountains on either side of the Kanzám pass. Hence it flows eastwards for thirteen miles, washing the base of the outer Himalayas; then turning south-east it maintains this direction with no material deviation till it reaches Máni at the base of the southern hills. Here it sweeps eastwards and ultimately leaves Spiti at its north-east corner by a narrow gorge hemmed in on either side by lofty mountains. In Basáhir it turns southwards and joins the Satlaj after a course of over 120 miles, its fall averaging about 60 feet per mile.

The principal tributaries of the Spiti upon its left bank, are the Kibjuna, the Tánmu, the Lágudársi, the Párang, the Shilla and the Lingti. All these have their rise in the outer-Himalaya, and running in deep beds with precipitous sides, are quite valueless for purposes of irrigation. The Lágudársi rises in the Tákling pass, and the Párang in the pass of the same name. The Lingti, which rises in the highest peak of the whole range, is a considerable river and has a course of over thirty miles. On the right bank, the principal affluents are the Giundi, the Rátang, and the Pín. The Giundi has a course of about twenty miles, the Rátang, of rather more than twenty The Pín is described in greater detail below. The mountains drained by these and other river streams of the southern side of the valley, are utterly barren and uninhabited. The hills are devoid of vegetation; and the valleys, abrupt, rocky and shut in by precipices, are in many instances choked in with *débris* through which the streams have cut for themselves broad courses, sometimes from 800 to 500 yards in width, and having "straight sides like the banks of a canal" from 200 to 300 feet in height. The Pín is the most important tributary of the Spiti. It rises in the angle of the mid-Himalaya and Mánirang ranges, and with its affluent, the Parakio, or Parakís, a stream of nearly equal volume, drains fully one quarter of the Spiti valley.

133 361 **Chapter I.** **The District.** Rivers.

It[1] joins the Spiti after a course of 45 miles a short distance above Dankar, the principal village of the valley. The width of its bed near its mouth varies from 300 to 800 yards. The greater part of its course is through an uninhabited country, its valley forming no exception to the description given of the other streams which join the Spiti from the south and west. Near the mouth of the valley, however, the country opens, and affords space for cultivation. Here there are eleven villages, the only inhabited spots, not in the valley of the main river itself, in the southern half of Spiti.

312 133 Character of the Rivers: Bridges.

Running in deep courses, the sides of which are steep and friable, the water of the Spiti rivers is valueless for purposes of irrigation; and although artificial watering is a necessary condition for the production of a crop, and a plentiful supply of water, most plentiful in the hottest season, passes at his feet, the cultivator has to be content with the meagre supply obtainable from streamlets having their rise in the smaller ravines, some of which run low, or dry completely up before the close of the summer months. The water of the rivers, heavily charged with silt, is turbid and yellow in appearance. The flow is seldom deep, being distributed over broad courses, and often broken up into independent channels. The current, however, is sufficiently rapid to render fording, where not quite impossible, a matter of difficulty and danger; and when the streams are full, the ominus sound may be heard of rolling boulders knocking one against the other. 491 133 Bridges, on the other hand, are rare, and cannot in any case, except that of the new *sangha* bridge at Rangrig over the Spiti river, be passed by the *yaks* or ponies with which most Spiti men travel. The people therefore are compelled to ford, and lives are frequently lost in consequence. At two points, above Kája and below Lithong, where the main stream is suddenly collected into a narrow channel by ridges of rock, *sanga* bridges have been erected for foot traffic, but the biggest timber in Spiti is too light for the construction of a bridge passable by *yaks* or ponies. Below Máni the river runs in a narrow channel and is crossed in three places by *jhúlá* bridges.

361 Villages and scenery in Spiti.

On the Spiti the first inhabited spot is Losar twelve miles from the Kanzam pass. From this point downwards villages are frequent, occupying every available corner in the valleys, both of the main streams and of its tributaries from the north. A traveller passing down the Spiti valley would never suspect the existence of villages in these lateral valleys, for the streams which drain them run in deep canons or chasms with precipitous sides cut in the rock, and nothing can be seen but the mouths of these gorges from the main valley. 133 Major Hay, in his account of Spiti, says that the soil is composed of lime and sandstone. It is evident that a river very easily cuts itself a deep channel in this formation, which is only hard so long as it keeps dry; and as very little rain falls, and the snow melts gently, the banks of the cutting remain very perpendicular. Curious examples of this quality of the soil are seen in many places, where the ground has melted away round certain points protected by slabs of slate or shale, leaving the slab high in the air supported by fantastic pillars or arches of the softer formation. 133 312 One bad result of this peculiarity is that though water for irrigation

[[1] i.e., the Pín, a tributary of the Spiti river.-- ANALYST.]

Chapter I.

The District.

Villages and scenery in Spiti.

133 312

is the great want in Spiti, yet the river itself and its tributaries, fed from immense glaciers, and at their fullest in the hottest weather, supply none; their beds are too deep, and their sides are too steep and friable, so that the *samíndár's* only resource is in the water of small streamlets which flow from small ravines in the face of the mountains which shut in the main valley. Some of these dry up altogether, and others run very low towards the end of the summer. The main valley looks as if it had consisted originally of a level plain from a mile to two miles wide, but the greater part of this plain has been carried away by the river which now runs in rapid shallow streams scattered over a very broad bed shut in by steep cliffs; the remains of the plain form plateaus above the cliffs, and it is on these plateaus that the villages stand. From the plateaus the mountains rise up in long steep smooth slopes of *débris*, till near the top, rocks rise out of the slope in the shape of walls or jagged ridges, and end the view. The plateaus and slopes of *débris* look brown and bare; and the rocks are of all colours, shades of red and yellow predominating. There are no trees, and to get sight of green grass you must go up into the high lands on the left bank already mentioned. All available water seems to be carefully reserved for the fields, and there are no *dang* or irrigated hay-fields as in Láhaul. In place of hay a kind of thistle and a vetch, which grow wild in the valleys, are cut and stored for winter fodder. At the head of the valley there is a kind of bush willow which grows in the bed of the river, and lower down a prickly shrub (*Hippofa salicifolia*) is common in the same position, but they are neither big enough nor green enough to alter the prevailing barren tints of the scenery. At the lower end of the valley a few *shokpa* (*Juniperus excelsa*) and poplar and willow trees are to be seen. These, with the exception of a kind of dwarf birch which is found in one or two places, furze, broom, wild rose, and currant bushes, comprise all the trees and shrubs of the country. The Pín valley is more absolutely bare of tree or bush than any other part of Spiti, but there is more grass than in the main valley, which is probably due to a greater rainfall. In spite of the utter want of verdure, there is a great deal of beauty in the scenery; the hills near at hand have very quaint and picturesque outlines, and their scarped sides show a strange variety of strata, each with a different tint of colour; above them a glimpse is caught of some snowy peak standing back against a very blue sky; in front are the bold sweeps of the river and the cliffs, supporting the plateaus, upon which, at long distances, the white houses and green fields of the villages are conspicuous. All this, seen through an excessively clear and pure atmosphere, makes as pretty a picture as is possible in the absence of verdure and blue water. The only blue water in Spiti is contained in one or two lakes, to see which requires a long climb out of the valley; there is a small one above Dankar, and another of considerable size at the foot of the Mánirang pass. The water in the rivers is always thick and yellow, an unusual thing in the Himalayas, and due of course to the

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formation of sandstone and lime before alluded to. The valley is similarly described by Mr. Theobald :—

> "All along the course of the Spiti river are seen old river terraces or deposits of shingle and sand, reaching to a height of some 400 feet above the present river level. Behind these regular deposits, rise almost mountainous accumulations of *débris*, precipitated by frost from the abruptly scarped limestone cliffs bounding the valley. The height of this gravelly mass mainly depends on the height of the cliff at whose base it has accumulated, but not uncommonly reaches to 1,500 or 2,000 feet above the river."

In the depth of the valley the soft soil of the cliffs which shut in the river-bed has been hollowed out by the action of time and water into fantastic shapes. "Out of a soil of clay and bold rock," writes Captain Harcourt, "uprise rough monument-like masses that are not a little peculiar in appearance, for they are crenelated and honey-combed all over with deep holes and apertures as if scooped out by art, supporting on their summits great boulders of stone which in all probability have kept the masses underneath from wearing altogether away."

132 Climate of Spiti.

[133]

The seasons in Spiti correspond generally with those of Láhaul; though the spring is somewhat later, and the winter of longer duration. The mean elevation of the villages is considerably higher than in Láhaul, averaging 12,000 feet or over, and rising as high as 14,000. Snow begins to fall in December, and remains on the ground until the end of April, but seldom exceeds a depth of 2½ feet, which is less than in Láhaul. The cold during the winter is very severe and is aggravated by violent and piercing winds. Slight showers of rain fall in July and August, though the district is beyond the regular influence of the monsoon; severe frosts set in before the close of September, in which month Mr. Lyall records that a stream of water he had observed at night running down a slope from a broken canal, was turned into solid ice by the morning. "The climate," he adds, "is a remarkably healthy one; excepting a few simple complaints, such as colic or rheumatism; sickness appears to be almost unknown." He saw in his sojourn in the valley no cases of goitre or critinism, and remarks that "the muscular development of both men and women looks large and hard compared with that of the people on the south side of the Himalayas." In the summer Captain Harcourt records that the days are exceptionally hot. The mean temperature of the Upper Spiti valley is given in Messrs. Schlagintweit's tables as follows :—

[164]

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January	17°
April	35°
July	60°
Autumn	39°
Year	39·4°

137 Flora.

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For an account of the flora and vegetable productions of Láhaul, reference should be made to Vol. X of the Linnean Society's Journal, which contains an excellent paper upon the subject by Dr. J. E. T. Aitchison, a Civil Surgeon on the Punjáb establishment, and late British Joint-Commissioner at Léh. The hills of Spiti are, as has been already stated, bare and devoid of forest. At the head of the valley there is a kind of bush willow which grows in the

6: Gazetteer G-5 (ca. 1840-1883) 1883-4 AJ4 W. Tibetans AJ4

648 Chapter V, B.

651 Land and Land Revenue.

634 British assessment of Spiti.

[33]

was removed by a redistribution of the cash assessment; more than half their cash revenue being taken off their shoulders and distributed upon the other *kothis*.

Mr. Barnes thus describes the assessment he made at the Regular Settlement:—"Spiti had been assessed summarily by Mr. Vans-Agnew, afterwards murdered at Mooltan. He was deputed to that remote district in 1846 A. D., and settled the whole tract at Rs. 753 per annum. Compared with Láhaul, the rate is decidedly low, but the country is more inhospitable and dreary. It is not so easy of access, and is removed several hundred miles, and by lofty ranges of mountains, from the head-quarters of the district. It is surrounded, I may say, on all sides by Independent States. Its political position is singular, and at various periods, Spiti has been the feudatory of China, Basáhir, Ladákh and Kúlu; and even at this time there are Chinese emigrants residing in Sipti, who pay a divided allegiance partly to us and to their mother country. From such a region, so peculiarly situated, revenue was a secondary object. The people, moreover, argued that Mr. Agnew had fixed the assessment for twenty years. I attached no weight to this argument, as their deed of lease specified no such conditions; but adverting to the remoteness and poverty of the country and its isolated position, I determined to make no enhancement. The present demand was quite sufficient to indicate the tenure of the British Government, and after this recognition of our claims, I saw no advantage in exacting an additional revenue, which, from its trifling amount, could be of no importance to the Government, and might entail distress upon the people. I accordingly left the demand of the Summary Settlement of Rs. 753 unaltered."

6: Gazetteer G-5 (ca. 1840-1883) 1883-4 AJ4 W. Tibetans AJ4

CHAPTER VI.

TOWNS.

Chapter VI.

Principal places in Láhaul and Spiti.

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[292]
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The principal villages of Láhaul are Kyelang, Kardong and Kolang. Kyelang is situated on the main trade route beween the Rohtáng and Bára Lácha passes, on the right bank of the river Bhága about four miles above its junction with the Chandra. Here a post office is maintained during the summer months, and a Moravian mission has been for some years established. The mission-house is a substantial residence, the lower apartment of which is used as a chapel. A school supported by a grant from the Government is managed entirely by the Missionaries.* Kardong lies on the left bank of the Bhága almost immediately opposite Kyelang, and is spoken of by Capt. Harcourt as at once the largest and most striking village in the valley. The houses are better built than in other villages. Kolang, which is the residence of the Thákur of Láhaul, is also situated in the Bhága valley, on the right bank about ten miles above Kyelang. The largest village probably in Spiti is Rangrig on the right bank of the Spiti river. The name is said to mean town. Dankar, the capital of Spiti, is a large village, 12,774 feet above the sea, built on a spur or bluff which stands out into the main valley and ends in a precipice. The softer parts of this hill have been worn away, leaving blocks and columns of a hard conglomerate, among which the houses are perched in curious and inconvenient positions. On the top of a hill is a large house known as the fort, which, with some cultivated land attached, belongs to Government. On a point of the hill lower down is a large monastery. The aspect of the whole place is very picturesque. It has been the seat of Government of the country from time immemorial.

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* Capt. Harcourt pays a high tribute of admiration to the seal and energy of the Missionaries, Mr Behler and Mr. Heyde, and acknowledges the important services rendered by them to the administration. They are looked up to as friends and protectors by every inhabitant of the valley, though in the matter of conversions to Christianity they have had but little success.

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ORIGINAL ARTICLES.

With Plate M.

Tibet: Disposal of the Dead. **Singh.**

Disposal of the Dead by Mutilation in Spiti (W. Tibet). *By Dr. Bhagwan Singh.*

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133 The district called Spiti is now under British administration, and forms a part of the
634 Kangra District in the Punjab. On all sides it is surrounded by the snowy ranges of the inner Himalayas. The whole of this country lies on the banks of the Spiti river, which in turn is a tributary of the Sutlej. The altitude of Spiti is from 9,000 feet to 14,000 feet above sea level.

About a century ago Spiti was a part of Central Tibet, since when it was annexed by the then
779 Raja of Kashmir, and subsequently taken over by the British Government. The inhabitants follow
144 the Buddhist faith as practised in Tibet, and are of Mongolian origin, with an admixture of Aryan
177 blood. Practically all their customs are derived from the usages of pure Tibetans.

764 I propose in this article to give an account of one special mode of disposing of the dead—disposal by mutilation. As has been already stated by the Rev. Walter Asboe, in his account of the disposal of the dead in Tibet, there are four methods employed when disposing of the dead. They are (1) Mutilation of the corpse by chopping it in pieces; (2) Cremation on a funeral pyre; (3) Burial in the earth; and (4) Throwing the corpse into the water.

766 I was informed that whilst the corpses of laymen may be disposed of in any of the four ways already mentioned, ecclesiastics are always cremated on a funeral oven made of stone or earth in the form of a square. This applies especially to Spiti, for in other parts of Tibet both clergy and laymen alike are cremated after death on a funeral pyre of logs.

764 The most propitious time for mutilating corpses is when the harvesting and winnowing operations
793 are performed, whilst at other seasons of the year the mode of disposal is determined by the lamas (priests) who consult their religious books for the most auspicious method.

The site chosen for the mutilation ceremony is usually a good distance from the village. Here again the lamas are consulted as to the most propitious position—whether it should be the north, south, east, or west of the village.

000 During the month of August, 1932, I went on a medical tour to Spiti, and I was fortunate in visiting a village where the mutilation ceremony was performed.

On August 26th I reached a village called Manay, situated on the right bank of the Spiti River. On arrival there about midday, I was informed that a young man suffering from pains in the abdomen had died early that morning.

On inquiry, the villagers told me that the day before my arrival the deceased went with some people from the same village to repair a road running between Pow and Manay. Whilst lifting a boulder which had obstructed the road, he felt slight pains in his belly, causing him to abandon his work and proceed home. These pains increased in severity, followed by vomiting and acute constipation. The pains were spasmodic, and localized in the region of the navel, and he was unable to lie on his back, but remained in a sitting posture until his death.

1 [See source # 13 in AJ1 Tibet AJ1 -- Analyst]

000 der of the mountain turned and waved. He was the stouthearted one who carried the dreadful load over Rothang.

492 Tashi (which means "good luck") was our new employee. He
465 was short and stocky, middle-aged, pleasant, quiet, efficient. He
had with him his son, about fourteen years of age. They had ten
horses and were going as far as Kyelang, three stages distant. I
agreed to pay eight rupees a day for each riding horse, five rupees
a day for each pack horse. The horses were the small Punjab
type, not even ten hands high, with small feet and fairly sturdy
shoulders. We rode two; the rest carried the baggage. Tashi and
his son walked.

492 By the time the horses were packed, I knew that I could go with Tashi in confidence to the end of the earth. He was one of those quiet, steady, competent men who show the mark of the mountains. His horses were also good. They were fast-traveling animals. The riding ponies had no bridles, only halters. The saddles, which had no stirrups, were crude wooden pack saddles, piled with sacks and blankets. Though the saddles were not painful, it was more comfortable to walk, as I did most of the way to Gundala.

● 133 The Chandra canyon, between a mile and a half mile wide, is
137 deep and twisting, with the mountain walls going up on both
sides at precipitous angles. There are here and there a few pine
[231] trees along the river and fir trees on the benches. These high
benches, the day we passed, were filled with sheep and goats,
white-fleeced animals that from the distance looked like great
patches of flowers such as one sees in the Cascades of Washing-
[311] ton when the squaw grass is in bloom. Now and then a bench
close to the river had been planted in potatoes, millet, wheat, and
a tall flowering plant that I first thought was a sunflower, called
the *kuth*, which is grown for medicine. There were scatterings of
yarrow, yellow violets, snapdragons, and delicate pinks along the
trail; and now and then I saw whole acres of cowherbs in bloom
—the tallest, most lush cowherbs I have ever seen.

The north bank of the Chandra, which the trail follows, is part 133 of a huge finger of land, a sort of peninsula many miles long and eighteen thousand feet or so high. The Chandra flows on one side of this peninsula, the Bhaga on the other. The Chandra and Bhaga rise on Baralacha Pass (which we later crossed), flow in opposite directions at the start, then parallel each other, and finally join about six miles west of Gundala. A historic short cut is from Koksar over the peninsula to the foot of Baralacha—a wild, broken stretch of mountains that claimed the life of Hilda Richmond in 1939. We took the long way, swinging around this long finger of land.

Opposite us was a mighty range capped by Snowy Peak or Gundala Peak, whose exploration is described in Bruce, *Kulu and Lahoul*. One looks almost straight up from the river ten thousand feet. There are cliffs that are sheer for several thousand feet. Glaciers run to their edges, tremendous ice fields impregnated with dust and dirt so that when the afternoon sun strikes them they turn to gold. Some of these glaciers not only grip the shoulder of the high cliffs but also droop down their sides like gargantuan icicles. Waterfalls drop from the cold lips of these glaciers; deep in one recess of these gargantuan rocks I saw three, each a thin, miniature Niagara but several times higher. They were falling unknown hundreds of feet in white, soundless spray, ending in milky streams that ran in torrents to the Chandra. The rocks sprayed by these falls were painted with moss and lichens. In the lower reaches some of the moisture from the ice fields watered high ledges and benches that were covered with a short green nap as smooth and as soft to the eye as velvet. The highest points, the topmost ledges, were filled with snow. The blizzard that we had traveled en route to Koti had left the high granite shafts that top the ridge freshly powdered.

Many tributaries feed the Chandra on its run to the confluence [134] with the Bhaga. In the summer they are filled with a small snow trout, which I did not see but of which the natives boast. This day

• /33 even the tributaries were murky with silt. One side stream about twenty-five feet wide was on a rampage. It had freshly gouged out the mountainside, sweeping away a bridge, washing away many feet of trail, and biting deeply into a ravine. We had to climb high to cross it.

000 Several travelers of the trail had piled up at the one place where the stream was fordable. One train, made up of small donkeys, was being unpacked so that the animals could cross on their own. Men and women were fording the stream, stepping gingerly in the fast, dark water, leaning against the powerful current as they fought their way across.

I took the crossing lightly, as if it were only a casual thing. A thin, dark Lahuli, wiser than I, noticed my cavalier manner and happily waded into the stream to meet me. We met just in time, for I was not prepared for the tremendous onslaught. The main current had me off my feet when the strong arm of my unknown Lahuli friend caught me and half dragged me to shore. While I was waiting for my pack train to catch up with me, my Lahuli friend and I stood guard at the ford, helping all travelers who came along.

Among them were two women and a baby. My Lahuli friend waded across, took the baby from the mother, and brought it safely to the other side. I guided the women, giving one of them a hand and letting the other lean against me. They were wet and breathless when they reached the shore. There were thanks in their eyes and on their lips as they uttered strange words of appreciation, put the baby back in the sling that hung over the mother's shoulders, and took to the trail.

Later we passed them. And when we were having lunch on a huge rock that sat astride the trail, they caught up with us and began a long conversation with Rahul. As he talked I studied
142 these women. They were in their late twenties, with dark skin and coal-black hair. The Kulu women had been about as dark, but they had sharper features. These Lahuli women had more of

361 shoulder of mountain. Kyelang has a bazaar of a dozen or so
161 shops, a grade school, a dispensary and hospital, large administration houses, a cold spring that comes booming out of a pipe, and
[132] narrow cobblestone streets where pack trains can barely pass. It is a delightful place in summer months, seldom getting warmer than 73 degrees.

137 The streets of Kyelang are lined with aspen and willow. The willow is the common white willow of the Old World, the one that is naturalized in parts of the eastern United States, the one that is the standard wood in England for making cricket bats, artificial limbs, and the charcoal used in the manufacture of black gunpowder. The white willows at Kyelang are old and gnarled, two to four feet thick. They have been topped for years and used for wood and so are squat and stunted. New plantings of willow shoots are wrapped in cloth or twigs for protection against the goats. On the slopes above Kyelang are scatterings of juniper (pencil cedar), reminiscent of the juniper one finds in the Steens Mountain country of southern Oregon. And here and there are a few of the willow leaf sea buckthorn—a willow-like tree of the oleaster family (*Hippophae salicifolia*). At both ends of the
[133] Bhaga canyon, as seen from Kyelang, are huge snow-capped peaks with glaciers that, during a summer day, reflect in changeable moods most of the colors of the spectrum. Kyelang, green and lush, lies like an oasis—an oasis in granite, snow, and ice.

Kyelang, the capital city of Lahul, was in charge of a Tehsildar,[1] a young, soft-spoken, pleasant Sikh by the name of Mahindar Singh Randhawa. I met him as I arrived at Kyelang in the rain; and he assured me as I dismounted my pony in front of his office that the weather was "most unusual."

197 Lahul, though a part of India, is a foreign land. The most common language is Tibetan, and yet it is somewhat different because of the Lahuli dialect. The greetings along the trail out of Manali were in Hindustani—"*Ram, ram*" or "*Namaste.*" In Lahul they became Tibetan—"*Ju Ju*" or "*Ju Le.*"

[1] [Headman -- Analyst]

12: Douglas T-3 (1951)1953 AJ4 W. Tibetans AJ4

[Facing p 44]

133

At Rothang Pass it seemed that I was on the threshold of another world—a world where magic played the major role, where one in quiet meditation coul[illegible]ct the spirit[illegible]y a plac[illegible]ting far above the earth.

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The women of Gya were giggling as they started to sing. The song is a take-off on a man accused of being a lama. The man's name is Tashiwangyal and he is the singer.

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The Gya singers were accompanied by an orchestra of two musicians.

777 was plain that the clouds were lifting and that the storm was breaking up.

By the time the mule train was packed, we were in streaming sunshine and Toche Phirche was beginning to lose some of its sogginess through steam. There were black, ominous clouds on a high ridge to the north, the direction we were headed. Budh Ram pointed to them, misgivings written in his face. I grinned, pointed to my hat, and then to the clouds.

133 I was a good prophet. We climbed a thousand feet or so as we
137 left Toche Phirche and soon came into a vast basin (called Kiangcha), mostly flat, fifteen or twenty miles wide, and stretching ahead and behind as far as the eye could see. This basin was covered with scattered patches of the *dama* (*Caragana versicolor*), a low bush clinging to the ground like heather. It is used as fuel in this region and has the interesting feature of burning even though green. A moss called *burtse* (Eurotia) also grew here, a moss I had seen ever since we left Chakchu. It grew in clumps as big as a saucepan and was dried by the natives for use
[136] as fuel. We traveled the basin for several hours. There were ibex above us on the canyon walls to the west, feeding off and on, then stopping to watch us, but always keeping a thousand yards or more distant. The storm that had been making up to the north swung east and then south, leaving us in brilliant sunshine all the way.

777 I stopped to put some flowers in my plant press and before mounting my mule made the announcement that I was tired of wearing my glass helmet. "Does anyone want to wear it?" I asked.

Rahul spoke up, so I gave it to him. We moved on—Rahul, the glittering white helmet, and the dappled gray mule in the rear. In an hour we had climbed a slight rise in the broad basin and faced Pagmur Pass to the north and a host of granite peaks and ice fields to the northwest. A storm that was brewing among the peaks soon moved toward us. It came faster than a horse

12: Douglas T-3 (1951)1953 AJ4 W. Tibetans AJ4

CHAPTER 9

SHEEP ARE THE GOODS TRAINS

There is an old Tibetan saying that "sheep are the goods trains, ponies and mules the mail trains." It was above Jispa where the court had been held and not far below Baralacha Pass that I saw the first sheep train. 000

The trail north from Jispa follows the narrow, winding Bhaga canyon. After a few miles the juniper thins out, leaving hills that are mostly barren in August. Jispa, which lies at 10,500 feet, is dry and dusty; but there are basins in the towering canyon walls that are 16,000, 17,000, 18,000 feet high which show touches of light green. There are wild roses along the trail—white and blue. A host of tiny saxifrage grow in the rock fields. These delicate white flowers are hardy and widespread; yet I found an occasional dwarf mountain dandelion even higher than the saxifrage. The Bhaga canyon shows no other colors in August—no color other than the monotonous browns and grays of the slate and granite that dominate the ridges. /33 [137]

The trail skirts bleak cliffs that drop hundreds of feet to the

• 133 milky Bhaga, and at times climbs so high that the roar of the river (which drops 125 feet per mile) is lost. Clear water pours out of springs and snow fields high on the ridges and washes the trail; and occasionally a waterfall drops off ledges in cool spray that touches the faces of those who pass. But the total effect of the canyon is dryness and bleakness—a parched land that offers no shelter or shade.

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492 Eleven miles above Jispa the canyon widens into a sloping bench on the far side of the Bhaga. That is Patseo, which means Stone Bridge. The stone abutments of an ancient bridge across the Bhaga are, indeed, still standing. Today the bridge is a flimsy wooden affair that trembles and shakes when a man or animal walks it. It is only safe for passage one at a time. Each of our mules—wise in all hazards underfoot—sniffed at it and took a few tentative steps before taking the full risk. Ram Chand, the muleteer with the high forehead, thin face, and scrawny mustache, stood guard, letting only one animal on the bridge at a time. Each mule seemed to be as relieved at his safe crossing as I was at my own.

000 Patseo has the last dak bungalow on the way to Leh, a two-room building that sits close to the canyon wall without shade or grass. We did not stay there, as our destination was Zing Zing Bar, which lies six miles above Patseo and six miles below Baralacha Pass. We stopped at Patseo only for lunch and for a visit to the Patseo fair.

443 Bleak and barren, Patseo (12,400 feet) is an ancient market place. Merchants from Leh, Yarkand, and Tibet bring their produce there. Merchants from Kulu come up with freight. There bargains are made and barters effected.

492 Patseo is where I saw my first sheep train. Sheep and goats, a hundred or more in a band, were coming down from Baralacha Pass, loaded with little bags, one on each side, filled with salt. Up front was a big billy, aristocratic in his bearing. He kept to the trail, while the band that followed him was strewn above and

492 to rid it of the moisture collected from the storms it had been
439 through during its long journey.

Several mule trains had arrived from Manali carrying cereals, tobacco, cloth, pepper, ginger, and sugar. These products from the south were exchanged for those from the north.

[804] It is a rule of thumb that five sheep loads of salt are the equiva-
437 lent of four sheep loads of barley or corn. There were scales at Patseo—crude scales that looked like miniature teeter-totters. The wool and salt were weighed; the corn and barley were weighed. Then the exchanges were made. This day—August 4, 1951—wool was selling at Patseo for two and one half rupees (fifty cents) a pound. Some money changed hands. But the bulk of the trading was by barter.

The sloping bench above the river at Patseo was dotted with tents, made mostly from pieces of canvas or cloth stretched on poles to form a roof. The walls were the sacks of grain, tea, or salt the merchants had brought to the fair or had purchased. They were piled on three sides as windbreaks. Each tent had a fire of dung. Tea was being brewed in large copper kettles; and *chapattis*—the thin, unleavened bread of India—was being baked on convex copper plates.

492 One mule train started down the trail to Kyelang and Manali loaded with salt and wool. Another started toward Leh heavy with grain. And just before we left for Zing Zing Bar a sheep train that had been at Patseo for several days started its long return journey north. The sheep looked thin and gaunt, for they had been sheared. The little bags they carried on their backs were now filled with grain. A billy was up front, leading the way. And the rest of the sheep were spreading out, looking for nibbles they had missed on the way down.

•133 Zing Zing Bar (14,000 feet) is a vast rock field on the Bhaga,
137 spewed from draws that run four thousand feet or more up the mountainside. These rock slides are a mile or more wide, devoid

of all vegetation except red, yellow, and gray lichens and a few 133
of the sturdy saxifrage. 137

At one time there had been a serai at Zing Zing Bar with rock walls and a galvanized iron roof stretched on steel rafters. But the weight of snow had crushed the serai, making it uninhabitable. I found a level spot in the vast rock field where I put my 040
bedroll. And after inflating my air mattress and getting everything in condition for the night, I joined the muleteers.

They had piled some of our baggage in the form of an L to provide a windbreak, and they had a fire of mule dung going. They were making tea, a tea unlike anything we of the West 272
know. It is called *gur gur cha.* The correct and proper way to make it is to brew the tea (which is kept in a bag) the day before, adding a pinch of soda and letting it simmer until it has a pinkish tinge. The next day put the brew in a churn, add salt and yak butter (*gie*), and mix thoroughly. Then heat the mixture until it is piping hot and serve.

Rup Singh omitted the first step. He had a tall, cylindrical, wooden churn in which, with the use of a plunger, he mixed water, salt, and yak butter. After the butter was dissolved he poured the contents of the churn into the teapot. When the tea had boiled, it was ladled out in cups. It sounds repulsive and sometimes is, when the yak butter is rancid. But Rup Singh's *gur gur cha* was good. A cold wind was sweeping down from Baralacha, chilling us. The *gur gur cha* seemed to have a special warmth. It was nourishing too. We sat in silence for perhaps a quarter hour sipping it.

Then the muleteers ate their supper. They had a sack of flour 252
made from barley that is cut when slightly green, then baked 262
and ground. This flour is carried in every caravan that travels Lahul, Ladakh, or Tibet. It is the mainstay of each meal along the trail. My muleteers ate it in the customary manner—they put a handful of it in a cup of *gur gur cha* and stirred it up until

CHAPTER 10

NEHRU'S HORSEMEN

It was 3 P.M., August 9, 1951, and we were making camp at Pagmur. There was hustle and bustle in the air. Pagmur had good feed for the mules, and we were hurrying to unpack so that they could graze. The meadow at Pagmur was not lush as we know meadows in our West. But the sod was solid, not broken; and it ran for perhaps fifty yards on each side of a small clear-water brook that poured down a shallow valley that looked like a wrinkle on the shoulder of the mighty range towering in the south. Pagmur was green, and the meadow was decorated with cinquefoil fresh and bright after the storm.

Another reason for the hustle and bustle was the weather. Pagmur sits at the head of a V, the valley widening as it runs away to the north. Far to the north were jagged fingers of granite and glaciers piercing the sky. Around these peaks another storm was gathering, and we could see long streamers of it stretching along the ridges that formed the sides of the V in which we sat.

12: Douglas T-3 (1951)1953 AJ4 W. Tibetans AJ4

133

Above Zing Zing Bar and before Baralacha Pass, the trail enters a long valley and looks down on a blue and sterile lake called Suraj Dal, or Sun Lake—a lake with nothing but clay and rocks along its shores.

Kyelang, green and lush, lies like an oasis in granite, snow, and ice.

133

[facing p. 96)

12: Douglas T-3 (1951)1953 AJ4 W. Tibetans AJ4

695

My Sikh friend, Mihindar Singh Randhaw the Tehsildar of Kyelang, held court at Jispa, fourteen miles above Kyelang.

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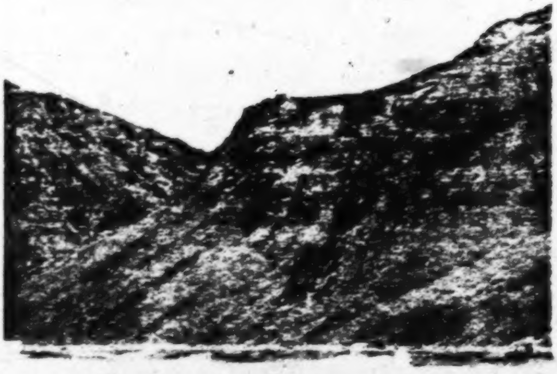
Moti was content to be the laziest, the most irresponsible, the least worthy mule in all of Lahul or Ladakh.

/33



The day we left Chakchu we climbed steadily through strange and exciting country, headed for Gongrechen Pass and La Chulung La Pass.

[facing p. 97]

000 train. There was one other exception, when we traveled from Pagmur to Leh with Nehru's horsemen.

•133 About eight miles below Pagmur at a place called Zara we got
361 horses and yaks. Zara is a barren, rolling basin that lies at the confluence of three bleak valleys. There is no mark of habitation at Zara except a few tents. Zara is indeed only a rendezvous for the goatherds of Rupshu—a region as remote from civilization and even from caravans as any place in Central Asia, an area inhabited by migrating tribes who have and enforce their own law quite independently of the central government at Leh.

136 Rupshu has large, fat marmots (called wild dogs by the natives), who peer curiously at all travelers. They pop in and out of their holes, running awkwardly. Then they stand and whistle in
[825] a tantalizing manner. The natives believe the marmot has the soul
[751] of a man who is mischievous and malicious. The fat[1] is used externally for rheumatism.

Rupshu also has some geese and ducks, the burrhl or blue sheep, the big-horned *Ovis ammon*, a snow cock, and gazelles. Big brown wolves raid the flocks of the miserably poor people, called Rupshupa or Changpa, who roam its almost barren basins and ridges.

137 This area has bunch grass, the mossy *burtse*, the low *dama* bush, and a small sage-colored bush that the Tibetans call *jyapshen*. But one takes a long step between clumps of grass. The mark of
735 overgrazing lies heavily on Rupshu. The mark of poverty is on
511 the people and their possessions, as well as on the land. Their
[291] brown pup-like tents are often in tatters. The Rupshupa go barefoot, wrapped in heavy brown coats that reach to their ankles. The black hair of men and women alike hangs in a tangled mass down their foreheads and necks. Their skin has ground in it the dust of hundreds of storms, and they carry the look of people who have not bathed for months on end.

000 We met the Rupshupa at Zara on a small piece of green meadow by a clear-water brook that comes down from the east.

[1] [of the marmot--Analyst]

900 traders at Patseo with whom he wanted to dicker for caravan freight. Bales of wool, brought down from Tibet and traded for corn and barley, were stacked to form long, high walls as they waited for mule or horse transport to arrive from Manali. Perhaps Rup Singh saw a greater profit in a deal on that transportation than he did on the contract with me. Rahul suspected that was the reason for Rup Singh's change of mind. Perhaps he had seen at the Patseo fair some woman who promised excitement of the hunt and who was worth the expenditure of an evening. Perhaps the long, arduous trip to Leh seemed less attractive to him now that he faced Baralacha Pass than it had when we employed him.

Whatever the reason, Rup Singh went on strike. He sat down on a rock, dug angrily with the heel of his shoe, and spoke rapidly and contemptuously. Patseo was the best place to camp; he didn't like our attitude; these were his mules and they must be well fed; he and his men were tired, and a good rest at Patseo before tackling Baralacha would be the best for them. That was the tenor of his talk. I sought the shade of a tremendous rock while Rahul negotiated. Rahul won out, although it took an hour of heated argument to win Rup Singh over. Even then he was not convinced. Now the smile was gone, and he was sullen and quiet.

He wreaked some of his revenge at Zing Zing Bar. One of the muleteers took the animals across the Bhaga and turned them loose to graze. It was apparent that by morning they would be three thousand feet higher, on a green bench which I could see—a lush-looking pasture around sixteen thousand feet high. Since we were to be on the trail at 7 A.M. Rahul arranged for one of the muleteers to go for the mules at the first streaks of dawn. Rup Singh countermanded the order. He sent Ram Chand at seven; and we were not on the trail until close to noon.

• /33 There was much perpetual ice to cross above Zing Zing Bar, dirty ice a dozen or more feet thick. The trail now threaded through great fields of shale broken from the ridges above us and flowing down the canyon walls. This debris filled both sides of

the canyon for miles on end. The monotonous brown and gray of /33
the rock, the bright snow on the high reaches, the dazzling sun, the absence of even a breath of wind made the ascent a grinding, laborious ordeal. It seemed an interminable time before we reached what seemed to be the top. At this point the trail enters a long valley and looks down on a blue and sterile lake called Suraj Dal, or Sun Lake, a lake with nothing but clay and rocks along its shores. Above the lake were huge drifts of new snow. The snow blocked the trail and was too soft to hold a mule. Some of the smaller mules had to be unpacked; and even the more rangy, robust ones foundered awkwardly in the drifts. One got stuck and in his violent struggles to get loose somehow threw his head against the corner of a pack box, cutting a huge gash just below his right eye.

In about a mile we came to Baralacha Pass, lying 16,200 feet. Baralacha is a barren, rolling amphitheater, not a saddle. This day it was touched with snow and dripping wet. The peaks that surround it were gripped by ice but now looked no higher than the White Mountains of New Hampshire, for at this altitude they were 23,000-foot giant peaks shrunk to small, irregular ones.

We stopped at Baralacha to repack the entire mule train and 000
to attend to the wound of the injured mule. As we were about to commence the rocky descent to Kilung, Rup Singh, pointing to a sheep train headed for Patseo, told Rahul, "We have had so much trouble that it is time Sahib bought us a goat. We could have a real feast tonight if we had a goat."

"Sahib may not be in the mood to buy you a goat today," Rahul replied.

"Why not?" Rup Singh asked, his eyes blazing.

"Because you would not start today until noon and Sahib wanted to be on Baralacha by noon to get the best pictures."

Rup Singh was sullen all the way down the rocky trail that tumbles off Baralacha to Kilung in a steep funnel of a canyon. He was cross at the mules and at the caravans we met. But a

•133 Below us was the Tsarap, white with clay, very swift, and a hundred yards or more wide. On the opposite canyon wall was a band of white sheep grazing in green basins several thousand feet above us.

This canyon where we now sat was once covered by a great sea that stretched far north, overrunning all of Tibet. That was one hundred million years ago. About fifty million years ago, great horizontal forces bore down from the north. What these forces were is still unknown. Perhaps they resulted from the earth's contraction; perhaps from a change in the rate of the earth's rotation. But whatever their origin, they were so powerful that in time they made wrinkles running east and west for fifteen hundred miles and rising to an average altitude of nineteen thousand feet above the Ganges plain. There was great volcanic action about fifteen million years ago. Granite intruded. Then came lava flows. The granite cooled under the surface, and its original covering was blown and washed away. The Himalayas rose to form the highest mountain range in the world. Their greatest growth ended two million years ago; but since that time they have been rising, and their upward movement continues even to this day.

The ridges of the canyon where we camped had been cut into weird shapes by wind, frost, and rain. Some had points as sharp as needles. Stretches of the skyline were saw-toothed. Great massive walls rose four thousand feet or more almost straight up and down. They were colored yellow, green, and brown. Some had purplish streaks or reddish tinges. There were large areas of micaceous rock in this canyon, rock that looked wet as it glistened in the sun. Sandstone, limestone, granite, and slate were mixed in helter-skelter fashion to produce as exotic color patterns as one will find in our own Southwest or in the Hindu Kush of Afghanistan.

000 Now the sun was setting. The sky was brilliant with gold, blue, gray, brown, pink. The shades would quickly change as clouds first broke and then rearranged themselves. Soon the clouds were

753 healthy places. They also send poison to make men dizzy and sick at the stomach, to make them bleed at the nose and swell in the joints, to make them faint and unable to walk.

753
782
778 Whenever one gets over a pass without being afflicted by pass poison or without suffering any other injury or disaster, the gods have been good to him. And so he always celebrates the event. He does it in several ways. He builds a pile of stones at the pass—called *obos* in Ladakh and *oris* in Lahul—and each time a traveler passes that way he adds a stone. And so the piles grow into huge collections. Everyone adds to them. A lama of distinction who is carried across a pass in a chair or who rides in state will not go by without having a rock added to the pile. A servant will hand him one from the ground, and he will drop it with his own hand. And he more than likely will add a prayer banner to the rock cairn or stop and burn incense there. The *obos* is a dominant ornament on every pass; and it is found also in other dangerous places such as in the steep and treacherous gorge between La Chulung La Pass and Toche Phirche.

The *obos* usually has streamers of colored cloth tied to the rocks or fastened to sticks that are planted in the rock pile. Prayers are written on these pieces of cloth, and each wind that blows makes the cloth flutter, and each flutter sends the prayer winging to the god or goddess of the pass.

133 The day we left Chakchu we climbed steadily through strange and exciting country, headed for Gongrechen Pass and La Chulung La Pass. There had been no trees north of Baralacha. The whole stretch of land seemed to be desolate and heavily eroded. Now the marks of erosion were lying heavier and heavier on the land. Once these mountains and valleys may have been lush. Now there was only an occasional patch of grass standing like a tiny island in a sea of slate pumice. Many buttes mounted the canyon walls. They were brown, yellow, green, and red; and the highest of them were flecked with snow. There is much sandstone in this stretch of country; the wind had whipped it and the rain had

worked it into odd shapes—tall columns, peaked cones, cathedral- 133 •
like towers. Weird formations stood in stately rows along the skylines for miles on end. And one massive butte, streaked with color, towered over Gongrechen Pass.

On the pass was an *obos* flying dozens of prayer flags. Ram 788
Chand, one of the muleteers, brought a new streamer in his pocket. He stopped at the *obos* and reverently added it to the collection. His was a prayer for safe passage for himself.

My muleteers never failed to perform the ritual. Neither did Budh Ram or Man Das. Rup Singh went about it eagerly, doing with vim and vigor what most did in a perfunctory way.

The habit is deeply engrained. It goes back to the ancient re- 177
ligion of the Himalayas, to the practice of the Shaman religion. 788
Shamanism was a form of animism that is traceable in the rites 779
of North American Indians. One cult piled stones on passes and other dangerous places to appease the spirit of the pass. Hinduism came up from the south; Buddhism came down from the north. The new institutions of religion absorbed the old. Shamanistic elements, including the *obos*, were taken over by the new churches. Thousands of years ago men piled stones at the dangerous places; they pile stones there today, and will pile stones there tomorrow. For the old superstition is so strong it survives all religious change. And today the lamas indeed teach the old and young alike that this ancient superstition should always be observed.

Another rite is performed on the passes where poison works up 788
into a potent force and often strikes men and animals down. It is a shout that every traveler gives as he reaches the highest point. *Ki-ki so-so lha gyalo* is the Tibetan version—Let the gods conquer. It rings from the lips of every traveler, young and old. I heard Rahul, Budh Ram, Man Das, Rup Singh and the other muleteers shout it. On pass after pass the same words rang out—*Ki-ki so-so lha gyalo.*

I had seen enough, as we neared the end of the trek, to ap-

12: Douglas T-3 (1951)1953 AJ4 W. Tibetans AJ4

• 133

There is a power lurking
in these Himalayas greater
than any man.

142.

My most interesting
patient was an old
Ladakhi woman.

133

As one passes a mani wall,
keeping it on his right,
all the prayers engraved
on the stones are said
for him:
Om Mani Padme Hoom,
Om Mani Padme Hoom.

[Facing p 128]

12: Douglas T-3 (1951)1953 AJ4 W. Tibetans AJ4

778

On Gongrechen Pass was an obos flying dozens of prayer flags. Ram Chand, one of the muleteers, reverently added a new streamer to the collection.

The valley below Upshi is several miles wide and the land lay mostly unused, the vast potential of the Indus being largely untapped.

133

[facing p 129]

ful of paregoric. I held it before Rup Singh and said, "This will /64 taste awful. It will burn all the way down. It will burn as badly as you imagine a powerful devil might burn if you swallowed him. But it won't hurt you. It will help. And the worse it tastes, the more good it will do."

Rup Singh nodded assent and understanding. He opened his mouth, and I poured the medicine down. His face showed the revulsion he felt; he gasped and sputtered and coughed. The next morning I asked him how he was. He beamed all over as he replied, "Sahib, you are a wonderful doctor."

And so my reputation as a doctor grew; and the word of my ability to cure constipation spread. Man Das was my next patient who suffered from constipation. I gave him the same prescription, and it had the desired effect. Goatherds, villagers, chowkidars, muleteers lined up. And to each I gave paregoric for their constipation. And with each dose of paregoric I gave an incantation, calling upon all the forces in the foul-tasting medicine to come to the patient's rescue. It always worked; and my worries on that phase of my medical practice disappeared so long as the paregoric held out.

My most interesting patient was a woman. I had first seen her at Serchu where she, a younger woman, and two men were resting on their packs beside the trail. I came to know them two nights later when we camped at Chakchu, in Ladakh. (*Chak* means "flint" and *chu* means "water.")

Chakchu is a rough, narrow defile on a hogback of a Himalayan /33 range. It lies at 15,800 feet and is the most unlikely spot for a camp one will find in any mountain. There is only one level piece of ground at Chakchu, a spot big enough for a couple of sleeping bags. There we put the kitchen. Rahul and I scrambled down a cliff and found, about a hundred feet below the ridge, a small shelf big enough for two bedrolls. This bedroom of ours had the shelter of an overhang of granite rock gaily painted with lichens. Below us was a yawning pit several thousand feet deep that ran

12: Douglas T-3 (1951)1953 AJ4 W. Tibetans AJ4

• /133 to the Tsarap River. Great jagged peaks dominated the skyline to the south and west. Tremendous chasms that grew in depth with lengthening shadows twisted and turned for miles on end where drainage of thousands of years had cut through rocks and sediment.

Not far below us a clear, cold stream dropped off a cliff and spattered the trail with a soft spray. It was the reason why Chakchu was a popular camp site. There was indeed no other good water for miles and miles. Chakchu was much used, carrying the black scars of many campfires.

/36 We made camp early and then sat on our perch watching every movement of life in the vast canyons below us and on the high peaks above. A horned lark visited us—a bold bird, gray underneath and white on top, with two pointed tufts of black feathers above the eyes. Two huge, coal-black Tibetan ravens and an eagle with an eight-foot spread caught currents of air as they swooped below us and sailed gracefully into the void, looking with sharp, cold eyes for carrion. A finch with a black head hopped along the ridge, flying short distances, and feeding as he went.

000 There was no noise, no wind, not even a humming of the *dama* bush that colored the slopes with dark green splotches. There was solitude so deep one could almost hear his thoughts. This was a place so far removed from all my people and my problems, it seemed I was in another world. It seemed I sat in the heavens apart from the earth. It seemed that Chakchu was the place where man could best come to know his relations with his God, his relations with the diverse forces and powers within himself that produce discord where harmony is needed.

I sat for perhaps an hour lost in these thoughts, when my eye caught a movement along the trail below me. The trail cut a thin white line in the side of the mountain for a mile or so until it disappeared around a gargantuan shoulder of rock thrust out into the canyon. The figure was a man with a pack on his back. In ten

CHAPTER 15

HEMIS MONASTERY

After crossing Staglang La Pass we dropped about 133
two thousand feet almost straight down a mountain wall and followed a narrow, winding canyon to Gya, the first village we had seen since we left Jispa seven days earlier. Gya, with a dozen or more flat-roofed stone houses, was plain and ugly though it sat in a waving sea of lush barley fields. Below Gya the canyon widens out until in twelve miles it opens into the Indus Valley. We followed a small clear-water stream, ideal for trout, all the way down. The canyon was bleak and bare, more sterile-
looking than anything Arizona can offer. There were partridge or [136]
chukar in the canyon—buff-colored like those in Persia and a bit
smaller than our grouse. The walls and slopes of the canyon were 233
being combed by goats herded by barefoot girls dressed in rags. 411
These girls had long slingshots made of string and leather which 281
they whirled, throwing rocks at the goats to turn the herd and shift its direction.

12: Douglas T-3 (1951)1953 AJ4 W. Tibetans AJ4

• /33 This clear, cold stream runs into the Indus; and at their confluence sits the bleak village of Upshi.

The Indus rises in a Himalayan basin nearly seventeen thousand feet high. Once it was fed by numerous lakes. Now these lakes are mostly landlocked and turning to salt. The Indus is a powerful stream, cutting its way through the Ladakh range of the Himalayas. The Indus is an international waterway; it rises in Tibet, flows through northern India, traverses the length of Pakistan, and empties into the Indian Ocean near Karachi. It is cosmopolitan in character, giving its waters to a greater number [823] of races than any other stream in the world. The Indus is a legendary stream. The Tibetans call it the River of the Lion, since it is said to flow from a lion's mouth. The folklore is that those who drink the water of the Indus will be heroic like a lion. And the bed of the river is thought to be covered by sands of diamonds.

This day in August 1951, the Indus was swollen with snow water and running dark with clay. It poured through narrow channels with an angry roar and spread wide where the channel [311] flattened out. Crude irrigation canals led off to fields of barley and corn. The valley below Upshi is several miles wide; and the land lay mostly unused, the vast potential of the Indus being largely untapped.

About five miles below Upshi is Marchelang, a village of a few hundred people—a garden in a washed and rock-strewn land. At this point the Indus Valley runs east and west. A wide canyon opens to the north, a canyon leading to Tibet and China over the 18,370-foot Chang La Pass. To the south there is a small canyon 792 or nulla. It was to that one we turned, and in a few miles came 346 to Hemis Monastery.

Many monasteries in Ladakh and Tibet are castellated buildings perched on high cliffs and thus protected from marauders and invaders. Hemis, founded about A.D. 1047, holds no such strategic position. It lies deep in a narrow nulla which is from a

12: Douglas T-3 (1951)1953 AJ4 W. Tibetans AJ4

CHAPTER 21

JU LE, JU LE

Leh, a town of 4,000, lies at 11,555 feet in a vast, 361
sloping basin hemmed in on three sides by peaks 133
that rise to 25,000 feet and more. The south side—the side we entered—flows in a gentle, rocky decline to the Indus.

We had followed the Indus from Marchelang downstream ten 133
miles or more after we left Hemis. Higher up at Upshi the Indus had been a raging torrent pouring in a maddening roar through narrow gorges that served as fast, rock funnels for the dirty water. Below Marchelang it was as flat and calm as the Mississippi in summertime, spreading into estuaries and bays as it overran its banks and overflowing great reaches of bottom land. Not far below Marchelang the trail turns north and crosses the Indus. The Indus now divided into two main channels. Two rather primitive wooden bridges quivered at the touch of man or beast and shook nervously, permitting only one man or one animal on them at a time.

There is a grove of poplars on the far side of the bridges, and 000

13: Heber and Heber	AJ4 West Tibetans AJ4
133, 487
●
[For descriptions of topography and routes on the authors' trip to Ladak, see category 116, Chapter VII, pp. 75-85--Analyst]

147 but their scanty garments, these small urchins spend the night with only a handful or two of barley-flour as a reward, but they call out a hearty greeting to our nurse as she passes, and neither spirit nor body appears to be chilled by the exposure.

000 We have already noticed the strange mixture of finery and rags, the incongruity of fine workmanship and adjacent tawdriness. Surely nature herself teaches them this odd combination of the sublime and the ridiculous. Think only of the many examples on the main road up from Srinagar to
133 Leh. As one emerges from the narrow defile which has
361 wound up slowly from Pashkim, just beyond Kargil, to the Mulbeck Valley and about three miles before the village of that name is reached, the gorge opens out into a broad cultivated valley with a great panorama of majestic mountains beyond. Here and there in the foreground are soft sandstone cliffs, behind, strange peaks with jagged pinnacles in their rugged outlines, rising higher yet sinking in perspective as they reach the horizon to stand out clear and sharp against the brilliant azure sky, the whole suggesting some gigantic upheaval of past ages. As one pursues the winding path in and out of soft red-brown sand-hills into the village, the nearer hills and the lower extraordinary formations of sandstone on the further side of the stream come into prominence. These are sculptured by wind, snow and rain into the most grotesque shapes, looking in some places like the ruins of some ancient village or even turretted castles, the rough outlines of the one-time windows presenting the most gnome-like suggestion of a forgotten civilization. In other places the stalagmite-looking relics are more statuesque, and, opposite the sharp turn of the high road to the left, may be seen across
342 the main valley a gigantic looking ruined model of a
133 mother with a child at her knees. Over the pass and into
361 the next village, again straggling along a wide valley, this formation is repeated, and one quaint little cluster of houses

342
133 ●
361

on the further side of the stream appears to be purposely designed to show the evolution of the house from the rock. Holes in the cliff itself slowly evolve into the apertures of a dwelling, and these merge into the more elaborate windows of a house in a graded transition before one's eyes, whilst portions of the rock are used as walls and foundations for the buildings, so that it is quite hard to distinguish across the valley which is nature's building and which is man's. Even in the people this similitude to the land and rocks amounts to a protective adaptation like that in wild animals and birds. How difficult it is to distinguish the ordinary coolie seen on the road in the distance. His undyed home-spun, his cap and even his face (for his cheeks receive just about as much washing as the land receives rain in this dry climate) are thoroughly impregnated with the dry dust of the desert. His movements alone distinguish him from the grey-brown rocks, stones and sand around. Very different indeed is the red-robed lama, who can be discerned from afar in a land where the atmosphere is so rarefied that distance is incredibly fore-shortened. Again it is often absurdly difficult to know whether a pile of stones set up by some passer-by to frighten away mischievous spirits is a human being standing or sitting until one is quite near by, when the stones may suddenly resolve themselves into a wayfarer who rises to ask you for some *m'a-ches* (matches) which will enable him to light his fire so much more quickly than the flint and tinder which depend from his waist. On the road between Bot Kharbu and Lamayuru one of the most quaint little clusters of transitional rock-dwellings suddenly comes into view up a narrow ravine on one's left, and one thinks of the inhabitants, the women especially, whose life and world is probably confined to this fantastic corner, appropriately named Henasku. But all these fantasies are only preparations for the incredible scene that lies before one as the final corner is turned in the approach to Lamayuru.

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● 133
776 The Photu La, a 13,400 feet pass, has just been crossed, at the top of which one seems to have had a bird's-eye view of a world of far-reaching mountain tops, so deserted of any sign of humanity that on looking upon this sea of mountains, one is reminded of Noah's dove who, having found "no rest for the sole of her foot," returned to the company of the Ark. So does one's eye return with a sense of common humanity and gratefulness to the unkempt, but triumphant ponymen of one's caravan, who, while their burdened steeds take breath after their exhausting climb, themselves pause to rest by the "Lhato" erected to mark the top of the pass. This structure is a collection of rocks and stones, supporting a crooked staff bearing some tags and rags with prayers inscribed on them, and with sundry marks of gratitude in the shape of old sheeps' and goats' horns, or best of all, a bit of yak's tail, thrown on to the pile. In the words *Sola*, *sola*, *sola*, the men express to the presiding genius of the pass their own relief and gratitude at once more having achieved the ascent, and then cheerfully start on the steep downward track. So it is with this majestic stretch of billowing mountains filling the mind that one proceeds on the way, and then rounds the last corner to see Lamayuru.

361
778 But who shall adequately describe this capital of Hobgoblin-land in its setting of purple hills, distant snow peaks, and brilliant blue sky? Running down towards the village, interspersed with "chorten" fat round structures, rather like gigantic pepperpots, are long "mani walls" built of stones and surmounted by two flattened sides, gently sloping up to meet each other, these tops being formed of flat stones covered with prayers. Nearer the village they end in arches, often with *chortens* on the top, under which the road may run. The village itself is built on the rocky hillside, here formed into strange fissures and crags, bridged by crazy-looking shelves, which the builders have utilized as well as the firmer foundations. It looks as if one shake would topple the whole absurd

structure on to the cultivated fields at the foot. Topping the 361
hill and weirdest sight of all stands the monastery, with its 346
flat roofs adorned at the corners with holy yak tails and
prayer-flags. When staying at the rest-house at the edge of 000
the fields below the village, the whole grotesque impression
is especially enhanced in the evening, when the voices of the
inhabitants going home from the day's work in the fields are
loudly amplified owing to some strange acoustic relationship
between the monastery hill and the one on the opposite side
of the narrow valley. Moreover, as some of these stragglers
ascend round the edge of the hill in the evening light, their
silhouettes are also magnified, so that the whole atmosphere of
this unparallelled and indescribable fortress of lamaism, makes
the traveller rub his eyes in the endeavour to awake from such
a fantastic dream. Before leaving this eerie wonderland there 133 ●
appears again a most extraordinary stalagmite formation of
sandstone, as though whole cities had been tumbled out of
the bowels of the earth, a veritable disruption of Sodom and
Gomorrah after centuries of interment. After this, nature
provides a scene of her wildest and most rugged grandeur.
The road winds up and down the sides of a wonderful gorge,
crossing several times the little stream, which gradually
increases till it finally hurls itself into the Indus as a roaring
torrent. All the way down the ravine, the road now climbs
up far above the water, now descends close to it, but never
leaves its noise, while the rocks provide a constant feast for the
imagination, a succession of weird imagery, with variations in
colour and shade, now fantastically suggestive, now boldly
majestic, until at last the troubled waters are borne away by
Mother Indus.

Thus does the grotesqueness of the land constantly manifest 778
itself, so frequently emphasized by the human touch, as in
these long prayer-walls, the longest of which, just outside
Leh, stretches for half a mile across the desert, looking for all
he world as though some giant children had been playing

778 trains in the sand, the *chortens* at both ends resembling clumsy engines, the lower one to give an extra push up the hill. Then there are the little piles of stones so often put up by lonely shepherds, or tired wayfarers, who have made their resting-places wherever a big rock will give them shade, these themselves in their sauciness looking more likely to attract evil sprites than repel them. Often on the tops of hills seen from the road side, but apparently on no beaten track, having simply invited attention because of their height or the suddenness, will be seen *lhatos* similar to those on the tops of passes.

133 Yet the strangeness of the land is after all but a minor aspect of these mountain uplands. The majesty of range after range of glistening peaks and shining glaciers in the regions of everlasting snow, their everchanging colour from morning to night, and from winter to summer, always new, always different, who shall tell of their never-failing inspiration, or of their picturesque parables? How can the wonderful autumn sunsets seen from Spitug close to the Indus in the valley five miles below Leh, be described? In a riot of crimson, the sun drops down behind the western gate of the valley, the gateway home for us of the far west, and leaves the mountains closing in the south-eastern gate, the way to the great closed land of Tibet, shrouded in mystery, while every possible shade of blue and purple and crimson and gold steal across the great ranges flanking each side of the long valley, and when to go out and wander along the green-turfed flats by the river is to go out to worship. Look at those rugged, jagged, cruel pinnacles of rock pointing upwards to the sky, as we ascend the Photila on the downward road to Kashmir. Do not their crude fingers remind us that even the difficult sorrow-filled times of our lives, have their directive function?

000 Living year in and year out in these valleys, bounded by their mighty ranges with their sense of mysteries guarded but capable of interpretation in some beautiful way infinitely

CHAPTER IV

Over the Zogi Pass

487 439 THE road between Leh and Srinagar, the summer capital of the Maharajah of Kashmir, and a popular hill station for the white man, is one of the chief highways to Central Asia, bearing its trade to and from India.

● 133 103 No wonder that one of the meanings attributed to the Zogi La, the dread pass that closes this road in winter, is the place of four meetings, for the roads from Tibet, Yarkand, Baltistan and Kashmir all converge here.

467 This road has been described by so many travellers, that it would be redundant to add another detailed account of the journey up to Leh. Suffice it to mention some of the outstanding features and incidents that have impressed themselves on one who has traversed it several times, and for whom most of its turns and corners bring to memory an additional reminiscence. The lower or Kashmir side of the pass includes the first stage to Ganderbal which is generally accomplished either by motor, for a car may go even another five to six miles to the Suspension Bridge which spans the Sindh, or by boat down the Mar Canal and across the Anchar Lake when there is enough water, otherwise taking an extra night and going down the river Jhelum to its meeting place or " wedding " with the Sindh river at Shadipur and then up to Ganderbal. Having once effected a junction with the Sindh, the marches from Ganderbal onwards lead directly up the Sindh river to the foot of the Zogi La. This valley is known to so many thou-

487 the Sindh valley narrowing and just make out the snow-covered crest of a mountain which barred its upper end and indicated the site of the pass, about which we must say a few words.

487 The name Zogi La has another meaning attributed to it by
●133 the Tibetan, as well as the one just alleged, one which indicates
[103] the terrors that abound when winter holds it in its icy grip, namely the place of four demons. It is a pass of 11,500 feet, which separates Kashmir and what to many represents civilization, from the wild uplands of the Himalayas and the mysteries of the "distant morning lands" of Central Asia. Though its altitude is not very high for a pass, only equalling that of Leh, its difficulties are great. The summer road should be open from 15th May to 15th November, for on those dates the rates of transport alter from the high winter ones indicating coolie porterage only, to the lower summer ones of pony transport. In winter the difficulties are often insuperable owing to soft snow, blizzards and biting winds, and often the mails are delayed two or three weeks before the runners dare attempt the crossing, the telegraph wires themselves not infrequently breaking with the weight of snow. Traffic is at a standstill from mid-December to early March, save for adventurous travellers who, even then, it is stated, get themselves carried over in baskets on the backs of coolies, sturdy inhabitants of the villages bordering the Ladak side of
[485] the pass. In the centre of the Zogi La is a rest-house, often up
[205] to the eaves in snow, called Machoi, situated on the top of a small sharp hill, one side of which is sheltered from the prevailing winds, and has two or three small buildings, a serai and a telegraph office nestling under it. The telegraph master must have a dreary time in winter, and in the middle of May is moved to another post higher up on the road to
000 Leh. The winter of 1924–5 was exceptionally mild and very little snow fell on the pass. April in Kashmir was a very hot month, more like June, and it was expected that the pass

000 were engaged, becoming so violent that our tents partly blew
down we were partly helped to descend, for its inhospi-
tality drove us on into Kargil. The camping ground is a very
pleasant one near some mills by a stream. On through a
[622] gradually narrowing gorge to Lotsun, where half of the whole
[512] march is done, then through Darkit, where the "headman"
of the wee village is a woman, and then at last the defile opens
out, and the mountains round the valley of Mulbek come into
view.

● 133 As we emerge we see our first *chortens* on the hill on our
778 right, and a little further on we notice that another broad
valley enters the Mulbek one at an obtuse angle, while whole
ranges of mountains come into view, vast upheavals at all sorts
346 of angles. Still a little further till we have to turn our heads
well round on the right, then at last we spy, built into the side
of the rock behind and facing that other valley, Shergol, our
first lamasary, the queerest, most elfish of structures, only
distinguishable by its whitewash from the rocky formation
into which it seems to merge. Now indeed we are back into
757 Lamaland. Even before this, while watching for our first
dGonpa (monastery), again a perfect little picture has claimed
our attention on the left. A dear old grandmother, with her
white uncovered locks blowing round her cheery wrinkled old
[285] face, is standing near a mossy-looking rock from which spring-
water is falling, with her picturesque country basket, a four-
sided structure converging to a cone-like point, at her side.
This is a medicinal spring, famed for its tonic effect on the
stomach, but on inquiry, the old lady says she has been applying
the water to her arms and shoulders for which it is also remedial.
Evidently she suffers from rheumatism in her old age.

000 The next part of the road has already been referred to in
our third chapter with its ludicrous resemblances to scenes
and statues, all the more fantastic for the stately majesty of the
great hills behind. Had the long march so wearied us that
we were getting dreamy, or was that really an old judge in

extracting thorns or obstrusive whiskers, the nasal vibrissae 000
being special objects of dislike. Some wore necklaces of turquoise and coral or red beads, others had ear-rings and many had bracelets, often in the form of a clasp not quite meeting round the wrist, whose two ends represented the heads of snakes. As we turned to attend to our luggage we gave them a coloured picture torn from the back of a magazine, and they carried it off and discussed it with great joy.

The next day we still had to traverse the further half of the valley, and even in the prosaic morning time, we constantly noticed fantastic shapes in the rocks on the other side. There was a realistic statue of Judge Cockburn, a certain outline of Cardinal Wolsey, and, just as we turned to the left to leave the main valley, guarding the entrance to a small nullah on the opposite side, was that strangest formation of all, a high pinnacle of rock, left standing like a gigantic solitary stalagmite, whose outline was weathered into the irresistible suggestion of a maternal figure, with one child nestled at her knees and another peeping over her left shoulder. In strong contrast to the size of these figures one slowly descried a monastic house and a few less important dwellings built into the base of the pillar in the usual gnomish fashion, from whose chimneys the blue smoke rose to curl up like incense obscuring the Madonna's face.

Leaving this strange valley, which, for all its weird sugges- 133 ●
tiveness, has an atmosphere of pleasant peacefulness, we turn to the left and then to the right again, and slowly wend our way up a long bare ascent to the Namika La (the Sky-high Pass) of 13,000 feet. On the way a ragged picturesque man, and a little child who was far more so, were seen leading a flock of small sheep and goats along the hillside, though what sustenance they were going to find in this dry barrenness was hard to see. The top of the pass has a fine panoramic view, and, having dismounted from our panting ponies, who ascend the last steep bit with constant pauses and periodic breathing,

133 we let them rest a few minutes, while we sit by the *lhato* and enjoy the sea of mountain tops all around. The path descends
361 into the open valley of Bot Kharbu, a long smiling stretch of cultivation with several small villages and a few ruined forts and castles on the hilltops. These were the scenes of fighting in the seventeenth century. Occasionally we note a rough bridge across the main stream, made just of the trunk of a tree or of two such logs side by side, of which one is a little lower, so that, if nervous, one could choose it and hold on to the higher. One noticeable cluster of houses, called Stagtse, is picturesquely grouped round a pointed rock on the other side of the stream. Near the rest-house, we see, on the further side also, that little collection of houses which gives the best example on all the road of how the native dwelling is fashioned like and merges into the surrounding rock.

Overhanging that part of the village in which the dak bungalow is to be found is a high rock with ruins of a castle or fort, conspicuous above which, and noticed from afar, is the figure of a man meditating over the valley, and brooding over the past history of its wars. When we arrive under it, we see it is only a sandstone figure, carved by the storms of centuries just as those seen on the day before.

133 The next day we leave the valley and enter a slowly narrowing long defile, leading to the foot of the highest pass we have to cross, and some six miles out of Kharbu we pass Henasku in a ravine on the left, already quoted as an example and, perhaps a better one than yesterday's, of a series of
788 transitional rock dwellings, and looking so lonely and so weird
484 on its high cliff. Pausing at the foot of the Pass, where there is water though no shade, for a meal, we then climb up to 13,500 feet, but just before the summit is reached, we come upon a nice group of Ladakis camping in that glorious scenery. We turn round to admire the way they have " parked out " their loads of bulging sacks into a wind shelter, against which they rest their own appropriate figures. Behind them is a magni-

c-cc sparsely populated regions the people are so interesting, for
the customs and ways of the unadulterated lamaism often
differ considerably from those of the high road.

103 But let us now accompany the " padre " and the " doctor "
● 133 in their trek from Ladak through Zankskar to Lahoul, and
home *via* the Plains, thus traversing the whole of the
Himalayan ranges from north to south, except the most
northern, named the Karakoram Range. Leaving Leh we
must first travel down the high road towards Kashmir for four
days, that is along the Indus as far as the foot of the
Lamayuru gorge. But let us remember the real name of
this river is the " Senge Kabab," which means the one which
" descends from the mouth of the Lion." The Tibetan
names of the other rivers flowing from the region of the
holy lake, Manosarowar, also indicate the true sources of
their mighty waters, for does not the Sutlej or " Langchen
kabab " descend from the mouth of the elephant, the Gogo
is the " Mamzhi kabab " descending from the mouth of the
peacock, while the Brahmaputra or " Damchog kabab "
descends from the ear of the horse. In our Western ignorance
we often garble these Tibetan names. Thus Darjeeling
should be called " Dorjhe Ling " the " Country of the
Thunderbolt," whilst Kalimpong is our distorted version of
" Kalonpug," the cave of the prime minister. But let us get
back to Lamayuru whence our road turns due south across
that division of the Himalayas known as the "Ri-gyal" or
361 mountain king range. Our first march takes us over a small
pass to Wanla, and we must get used to Passes, as within a
short period we have to cross fifteen, of which all but five are
fairly high ones. Wanla is a pretty village and shows signs
346 of having been an important one. Crowning the hill which
788 dominates the village is a fine old ruin, and behind it a
most peculiar built monastery, in many places resting on
beams which look so insecure that they must give way on
the slightest provocation. That they still hold is doubtless

142 unaccustomed to washing, but well-acquainted with smoky
fires. Their long coats reach just below the knees, and are
291 cut without shape or form of any kind. The fronts of these
over-lap, and in lieu of buttons they wear a long, broad
kammerband round their waists to keep their coats closed.
On the lapels of these garments are broad strips of nicely-coloured
flannel. The Changpas are shod with long boots
reaching up to the knees, red in colour and with very thick
342 soles. Their tents, to European eyes, seem to be just about
as ridiculous as tents can be; but then the Changpa does
not go into them for protection from the rain as we do, but
132 from the wind. Although in these high uplands there is
plenty of rain, for it seemed to be pouring or snowing most of
the time we were up there, he considers that the wind is the
worse of two evils, for in a high wind you cannot make a fire
to boil your tea. He therefore makes his tent so that the
wind shall find it difficult to get in, while the smoke of the
fire inside shall have an easy egress. To do this he leaves
the top of his canvas home absolutely open to the sky. His
shelter consists merely of two sides of black cloth made from
yak's hair, of which the upper two corners only are fastened
together and fixed on the top of upright poles whilst the lower
corners are fastened to the ground. These tents are so low
that, if the Changpa wants to see what his sheep are doing,
he has only to stand up and put his head and shoulders out
of his "chimney" to view the landscape, when he resembles
nothing more closely than a released jack-in-the-box. Inside
their tents these pastoral people sleep, cook their meals, and
keep their goods and chattels, while grazing around are
their horses, yaks, and sheep—a simple life indeed.

● 133 Pobrang itself is a very pretty place, consisting of a long
stretch of grass lying among sandy mountains with the usual
snow-covered peaks behind. Through it there run many
226 delightful rivulets in which the snow-trout are so abundant
that in quite a short space of time we pulled out about sixty,

FARMERS AND FARMING IN LADAKH (TIBETAN KASHMIR)

By WALTER ASBOE

133 An account of the cultivation of cereals in Ladakh presupposes a climate for their growth, bearing in mind the high altitude at which these cereals can thrive. In this lofty region of 10,000 to 14,000 feet above sea-level it is amazing that anything grows at all.

133 236 The country is one vast expanse of sandy plain and deep-cut valleys formed by colossal mountains and swift-flowing rivers. Upon the great plateaux large flocks of sheep laden with wool, borax, and salt move slowly over the tawny sand, raising clouds of dust as they proceed to the wool-clearing centre at Leh, the capital of Ladakh. It is also from these elevated regions that the famous shawl wool generally known as Pashmina comes, its final destination being Kashmir. Dropping down from the arid plateaus of Rupshu to the valleys of the Indus and its tributaries, you come to the many hamlets snuggling in the shelter of great cliffs and rocky eminences, forming with the arable land around them patches of vegetation resembling an oasis in the midst of a desert of rock and sand.

132 241 The climate of Ladakh is favourable to the growth of cereals and is a useful ally to the peasant living at high altitudes and subsisting on produce cultivated in ground which looks sterile and unpromising. Very little rain falls in Ladakh owing to the precipitation in the lower hills in the region of the Zogi Pass, which peters out by the time the higher altitudes are reached. The farmer has therefore to irrigate his fields artificially from rivers, mountain torrents derived from melting glaciers and the winter accumulations of snow. He is saved from the heart-breaking frustration of the English farmer, who must contend with capricious weather which so often ruins his crops just when he is ready to reap them. In Ladakh the peasant knows that the good weather of to-day will be followed by good weather to-morrow, so that he is saved much worry and extra work.

132 Frost and snow or sleet begin in September and continue in different districts without intermission until the beginning of May. The minimum temperature from December until February falls to −5° to −12° F., and there is no month in the year when there is not an occasional snowfall on the summits of the mountains. The intense cold of winter is mitigated by a dry atmosphere, clear skies, and a sun which warms provided that you remain in its direct rays. The average temperature in the shade during summer is about 75° to 80°. Thus the shortness of the summer is compensated for by the powerful rays of the sun, which ripen the grain rapidly.

The various meteorological processes which combine to form a climate are, as everyone knows, generated by the sun. It is therefore not sur-

/Illustrations and Photographs.[1] /

532 585 292 /(1)/ Number 1. Dance of the bride purchasers (Drawing by a native artist in Ladakh).

535 534 415 The bride purchasers (five here instead of seven) can be identified by their tall, golden hats, which characterize them as "children of the gods." The leader is holding an arrow with little flags in his hand. They dance by sliding a shawl like a snake across their shoulders. The music: Two oboe players, two drummers each with two kettledrums, and two tambourine beaters. The people clap their hands to the beat of the music. The family of the bride is inside the tent. Beer jugs made of clay and brass.

778 772 /(2)/ No. 2. Altars that have fallen into disrepair, dedicated to the three realms of the world. They were probably painted blue, red, and white. In the Skinling Valley near Khalatse.

53/ 778 137 No. 3. Rock drawings along the Indus River near Khalatse.

Buddhist stupas, between them a small, horned altar belonging to the pre-Buddhist religion. Twigs of the caper shrub.

778 /(3)/ No. 4. Rig-adzin-mgon-po of Gad-pa near Leh.

Three stupas of blue, white, and red color respectively. Continued existence of altars painted in the same manner and belonging to the old religion, within Buddhism.

● 133 778 /(4)/ No. 5. View of the Tibetan part of the upper Sutlej Valley.

Rough altar of the pre-Buddhist religion. Drawing by Prince Waldemar of Prussia (1845).

772 778 /(5)/ No. 6. The holy mountain Purgyul in the upper Sutlej Valley.

Like the Kailasa it belongs to the Tibetan Olympus. Up above live the gods and the redeemed human beings. Drawing by Prince Waldemar of Prussia (1845).

[1] [See pp. 103-117, Category 116 -- Analyst]

/(6)/ No. 7.[1] Deserted village dGon=pa near Leh 532 782 778

Rough ancient sculpture of a Bodhisatva /sic!/ which was erected in a place of worship of the pre-Buddhist religion. For that reason the horns of the ibex and juniper twigs are still, to this day, brought to it as offerings. Also, its mouth is spread with butter.

/(7)/ No. 8. Rock drawing from the bridge castle near Khalatse. 532 778 773

Kesar as an archer on horseback hunts an antelope. On both sides are Buddhist stupas. Above them a branch of the sacred juniper tree (Shug-pa).

No. 9. Rock drawing of the white lioness with the turquoise mane (glacier). A rock drawing from the Indus near Khalatse.

/(8)/ No. 10. Rock drawing from the Indus near Khalatse. 532 776

The wishing cow (Tibetan, aDod-ajoi-ba). In the heaven of the gods she grants all wishes.

/(9)/ No. 11. Rocks near the village that is now Mohammedan, Don-ga in Purig. 532 782 842

The drawings in part still date back to the Buddhist period of the village. The many boulders, likewise of very recent times, represent prayers of thanks addressed to Kesar for the blessing of offspring.

/(10)/ No. 12. Rocks near the village that is now Mohammedan, Don-ga in Purig.

The drawings in part still date back to the Buddhist period of the village. The boulders represent prayers of thanks addressed to Kesar for the blessing of offspring.

/(11)/ No. 13. A sacred place on the Ro-thang mountain pass (Lahul). 778 133

The source of the Bias River. A great many pointed rocks placed upright.

[1] [See pp. 103-117, category 116 -- Analyst]

15: Francke -- 106 M-3 (no date) 1923 AJ4 W. Tibetans AJ

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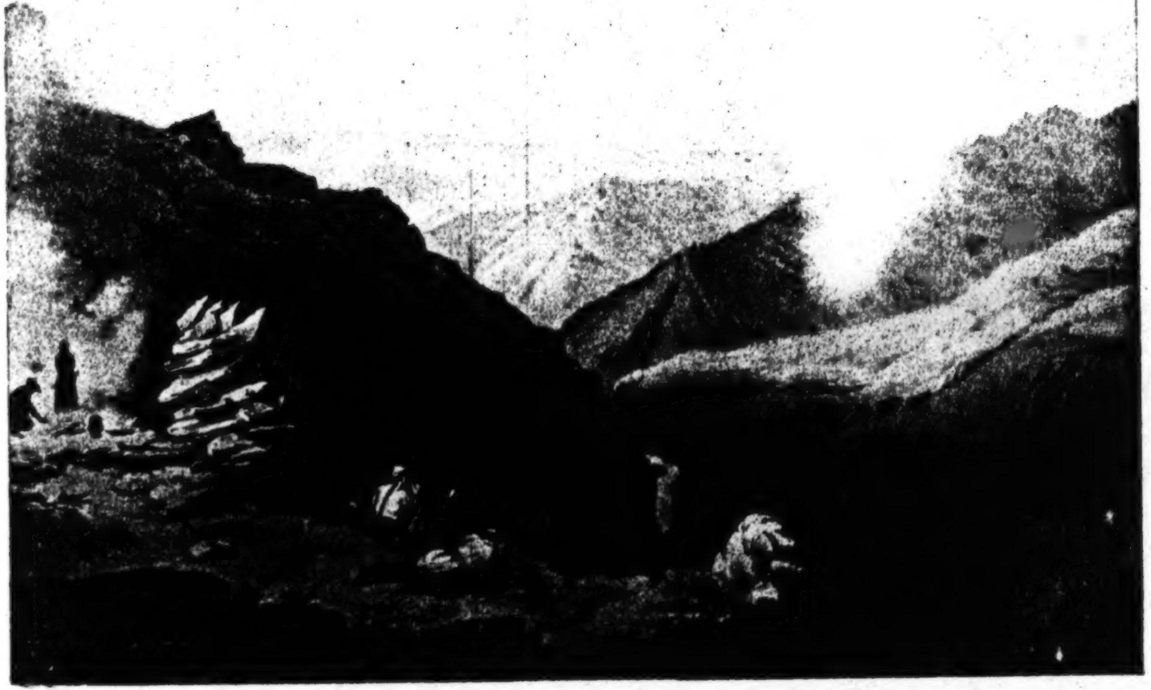

Nr. 5. Caption for above picture on p. 100

15: Francke --113 M-3 (no date) 1923   AJ4 W. Tibetans AJ4

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Nr. 13. Caption for above picture on p. 101.

22: Francke M-3 (no date) 1901 AJ4 W. Tibetans AJ4

(*d*) Do not laugh at another man's misfortune, the same might easily come to you. 539

(*e*) The second sentence in full would be: *stingmanas rgod ma shor*, from the follower a laugh must not flee. 000

37. (*a*) སྟག་སྣ་ནས་ཁྱི་ཡོང་འདུག་ཟེར་ཏེ། 133 ● 539

ཞ་འབུག་ནས་རྡོ་བ་འཁུར་ཏེ་ཆ་རུག །།

(*b*) stag'nanā khyi'yongdug zer'te
zha'bugnā rdo'a khurte cha'rug.

(*c*) Saying there comes a dog out of Stagna [a village four miles from Zhabug] they go carrying stones out of Zhabug.

(*d*) Do not be afraid, there will be a helper.

(*e*) *Zhabug*=*zhabub*=falling headlong into a bog; *charug*= cha'adug; the *d* of *'adug* becomes an *r* after a stem ending in a vowel. 000

38. (*a*) མི་ངན་ཚོགས་གསེབ་ལ་ཆ་ན། 539

ཤིང་ངན་ཏ་ཀུ་དང་ཐུག །།

(*b*) mi'ngan thsogs' sebla cha'na
shing' ngan ta'ku dang thug'.

(*c*) When a bad man goes into the middle of a forest, he meets [finds] only with bad crooked wood.

(*d*) A bad man sees only bad things and persons about him.

(*e*) *Taku* is the Ladakhi for crooked, crippled, ill-shaped. 000

39. (*a*) མི་ལ་སྐྱིད་མི་ཐག། 539

ར་ལ་ཚིལ་མི་ཐག །།

(*b*) mi'la skyid' mithag'
ra'la thsil' mi thag'.

(*c*) Man cannot bear good fortune, [just as] a goat cannot bear [eat] grease.

(*e*) *Thagces*=*thegpa*. 000

40. (*a*) ཁྱི་ལ་སྒལ་དང་བེ་དྷ་ལ་ཤོལ །། 539 231 463

(*b*) khyi'a sgal'dang be'daa shol.

(*c*) To the dog is a load, what the plough is to a musician.

(*d*) Certain people cannot be expected to do real work.

24:Peter E-5 (1938)1963 AJ4 West Tibetans AJ4
TibeT AJi

T
tune to come across not one, but several cases of this father-and-son 114
polyandry, and I shall give as concise an account as possible of them 595
since my findings have already been questioned in certain publications, although, I am glad to say, without the support of any factual evidence.

PART I

THE POLYANDRY OF THE TIBETANS OF WESTERN TIBET (LAHUL, RUPCHU AND LADAK)

WT
The three areas of Lahul, Rupchu and Ladak are now included within 101
Indian territory, the first in the State of Himachal Pradesh, the two 131
others in Kashmir. They are, however, predominantly regions of Tibetan 648
culture. Historical links with Tibet proper are ancient and solid, and, today, contact is kept up through the Lamaist Church, through merchants and through marriages between members of the leading families. WT

My itinerary lay first through Lahul an my way up from the plains of 114
India and for this reason, I shall begin with this district of what was then the undivided Punjab. I shall go on next to Rupchu and then to Ladak, as my journey was continued through *these two parts of Kashmir* territory.

A. POLYANDRY IN LAHUL

WT
The name of Lahul is presumably derived from the Tibetan Lho-Yül 101
(*lHo-Yul*), meaning "southern country", an appellation applied by the early Ladakis to the valley when it was at one time under their rule. The local name for Lahul is *Garzha*, the meaning of which is unknown.

1. ENVIRONMENT

WT
Lahul covers an area of 2,250 square miles and is situated in that part 133
of the Himalayas where the Chenab of the Punjab has its source (see [131]
Map 4). The waters of this river originally spring in two different directions, one south-east, the Chandra, and the other south-west, the Bhaga, both very close to each other on either side of the Baralacha (*Para-la-rTse*) pass, 16,047 feet high, in the main Himalayan range. The two rivers, when reaching the mid-Himalayan range, turn north-west, and coming together just south of the capital, Kyelang, run out of Lahul into

[Text Continues on P 305]

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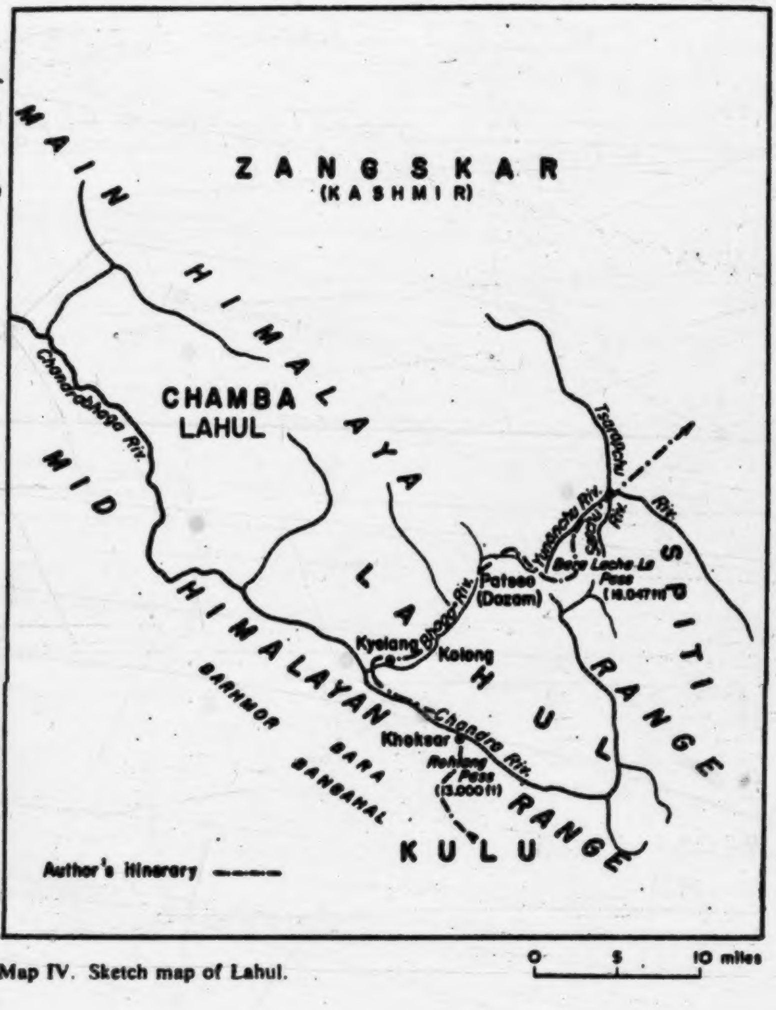
●133


ZANGSKAR
(KASHMIR)
MAIN HIMALAYA
CHAMBA
LAHUL
Chandrabhaga Riv.
MID HIMALAYAN RANGE
LAHUL
Tsarapchu
Riv.
Yunamchu Riv.
Serchu Riv.
Bara Lacha La Pass (16,047 ft)
Patseo (Dozam)
Bhaga Riv.
Kyelang
Kolong
SPITI RANGE
Khoksar
Chandra Riv.
Rohtang Pass (13,000 ft)
BARHMOR
BARA BANGAHAL
KULU
Author's Itinerary
0 5 10 miles

[114]

Map IV. Sketch map of Lahul.

neighbouring Chamba, eventually to join up with the Indus basin in the 133
plains. The valleys formed by the Chandra and the Bhaga constitute the
inhabited part of Lahul, as does also the valley of their united Chandra-Bhaga course. Running towards the north, and springing also from the
Baralacha pass, from a lake between the sources of the two other rivers,
is the Yunan river, which joins up with the Tsarab Chu (*Ch'hu*, "water",
"river" in Tibetan) in Spiti.

This hydrographic system of the Chandra-Bhaga or upper Chenab, 101
which constitutes Lahul, is bordered to the north by Zangskar in Kashmir, 131
to the east by Spiti, to the south by Kulu, Bara Bangahal and
Barhmor, and to the west by Chamba-Lahul. All these non-Kashmiri
areas were formerly part of the Punjab (Chamba was one of its princely
states), but have now all been included in the new State of Himachal
Pradesh.

The entire region is a high altitude one, the ranges north and south 133
rising to a mean elevation of 18,000 feet; the lowest point is the Rothang
pass in the mid-Himalayan range, and the highest peaks are well over
21,000 feet. The Chandra-Bhaga river, later to became the Chenab,
does not flow below 9,000 feet at its exit from Lahul into Chamba.
Kyelang is approximately at a height of 10,000 feet.

In consequence of the altitude the climate is a cold one. The mean 132
annual temperature in the capital is only 43.3° F. with the coldest average
temperature in February (23.° F.) and the highest in July-August
(61.7° F.). The rainfall is scanty, reaching only six inches during the
monsoon season in India from June to September. There is more rain
in the winter months due to storms of high elevation; these bring the
annual rainfall at Kyelang up to 23.08 inches for the whole year. For [241
this reason agriculture has to make use of irrigation, but as there is
plenty of perennial water from glaciers and from melting snow, this is 312]
rather an advantage to cultivation.

The scenery of Lahul is one of grandeur and it is impossible not to 133
be impressed by the towering, snow-capped peaks, the bleak upper 137
slopes of the mountains, the green pastures dotted with flocks of sheep [361]
in the summer, the poplar groves lower down fringing the flat, terraced
fields of both food and cash crops, and the small villages of closely
packed houses, flat-roofed and of an earthen colour, already very like
the typical architecture of Tibet. This is the scene which meets the eye
when the traveller is following the river bank in one of the valleys.
When these are left behind, and the colder air starts blowing down
from the heights, the vegetation becomes rare, and very soon ice and
snow fields are reached, even in the summer, before
crossing one of the high altitude passes.

000 the Indian plains. I also came across the first tent-dwelling nomads,
342 miserable people living in their black yak-hair tents, the latter standing
563 like spiders because of their strange construction in which the supporting poles and sticks are placed outside instead of inside the cloth.

361 When I arrived at our destination, I was taken into camp by the *goba* and his nephew (see Appendix 1, Narrative of journeys). There I found
[233] some more black Tibetan tents, in among flocks of sheep and herds of
[563] yaks (*gYag*), animals from which our hosts made their living. I put up our tent next to the largest tent of all, which was that of the *goba*.

[133] The camp was situated on a large, flat expanse of grass, surrounded by snow-clad hills, and the altitude was 14,500 feet. The plateau came to an abrupt end to the east and, beyond it, I could see the vast expanse of the brackish waters of Tso Moriri which is fifteen miles long. I was
[792] not able to see the monastery from where I was because it was hidden by a fold in the ground; it stood on the edge of the lake below, beneath the sudden overhang of the high plateau above. There was a large white *chöten* at this spot which gave the direction in which the *gompa* lay.

792 This monastery, called Korzok gompa (*dKor-rDzogs dGon-pa*) is one of the highest anywhere on the Tibetan plateau. It derives its livelihood
[441] from the revenue which it acquires from the summer visits of nomads
[243] from Tibet, from subsidies which it receives from the monasteries upon which it is dependant in Bhutan (for it belongs to the Drug-pa or Kagyut-pa sect, like those in Lahul), from the commercial activities of its abbot and monks who all indulge in trade, and from its agricultural efforts which, as I saw with astonishment, consist in growing barley, in spite of the altitude, and harvesting it during the short summer season from June to the middle of August.

The chief lama, a *tulku* (*sPrul-sKu*) or Incarnation, whom I had met on the way up to the Rupchu plateau, is called Lang-na Rimpoche (*gLang sNa Rin-po-ch'he*), meaning "Precious Elephant Trunk". He exerts considerable religious influence on the nomadic population which congregates every summer round his residence, and, at that time, he and the *goba* were actually the most important people in the area.

563 The nomads are called in Tibetan either Chang-pa (*Byang-pa*) be-
[101] cause they inhabit the high northern plains, the Chang T'hang (*Byang-T'hang*), or Drok-pa (*aBrog-pa*) meaning "pastoral ones". Those whom I saw at Korzok normally live in the lower province of Tibet proper, Ngari Korsum, just north of where we were. During the summer, they
[631] come up to Kashmir to graze their flocks and herds, and here enter into
[651] contact with the men from Lahul. Their animals belong to the *goba*

2. LADAK

a) *Preliminary Description*

I would like to begin with a brief description of Ladak and of Leh, the COO setting in which my research work was carried out, before accounting for the polyandry of this region.

1. *Environment*

Ladak (often spelt Ladak*h* in English, from the Hindi, whereas in 131 Tibetan it is *La-Dwags*),[1] is really the most westerly part of the high [101] plateau of Tibet, today included in Kashmir as a *tehsil* or administrative sub-division of that state (see Map 5). It is limited in the north by the Karakorum mountains and the Kara Tagh, which are westerly continuations of the Kwen Lun mountains of northern Tibet; in the south, by an artificial frontier drawn along the foot of the Zangskar and main Himalayan ranges; in the east, by an equally unnatural boundary with Tibet which runs from the Karatagh south-west of the Lingzi T'hang (plain) to the Pangkong Tso, and from there, south-east, to the upper Indus valley; in the west, by the other Kashmir sub-divisions of Zangskar and Baltistan.

The area covered by the sub-division is 82,000 square miles, of which [311] only 47,762 are cultivated. It is one of the most elevated regions of the 133 earth, the inhabited part ranging from 9,000 feet to 14,000 feet, and even more in Rupchu, as we have just seen. It is traversed from the south-east to the north-west by the Indus river, and in the north-western part another large watercourse takes its source, the Shyok river, into which runs the Nubra. It is these valleys which constitute the fertile [311] areas where habitation is possible, agriculture fed from river and glacier [361] water being the mainstay of the village.

As in Lahul, and even more so here, because of the altitude every- 132 where, the climate is a cold one for the greater part of the year, only the brilliant tropical sun of India bringing some warmth during the day in the summer months. The rainfall is scanty but, during the winter, an appreciable amount of snow does fall. Temperatures in the inhabited parts of Ladak, that is at a mean altitude of 11,000 feet, vary between a maximum of 62° and a minimum of 23°, on average.

Trade routes through Ladak are important, and there are three prin- COO

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[1] Another Tibetan name for Ladak is *Mar-yul (dMar-yul)*, the "red country".

24:Peter E-5 (1938)1963 AJ4 West Tibetans AJ4

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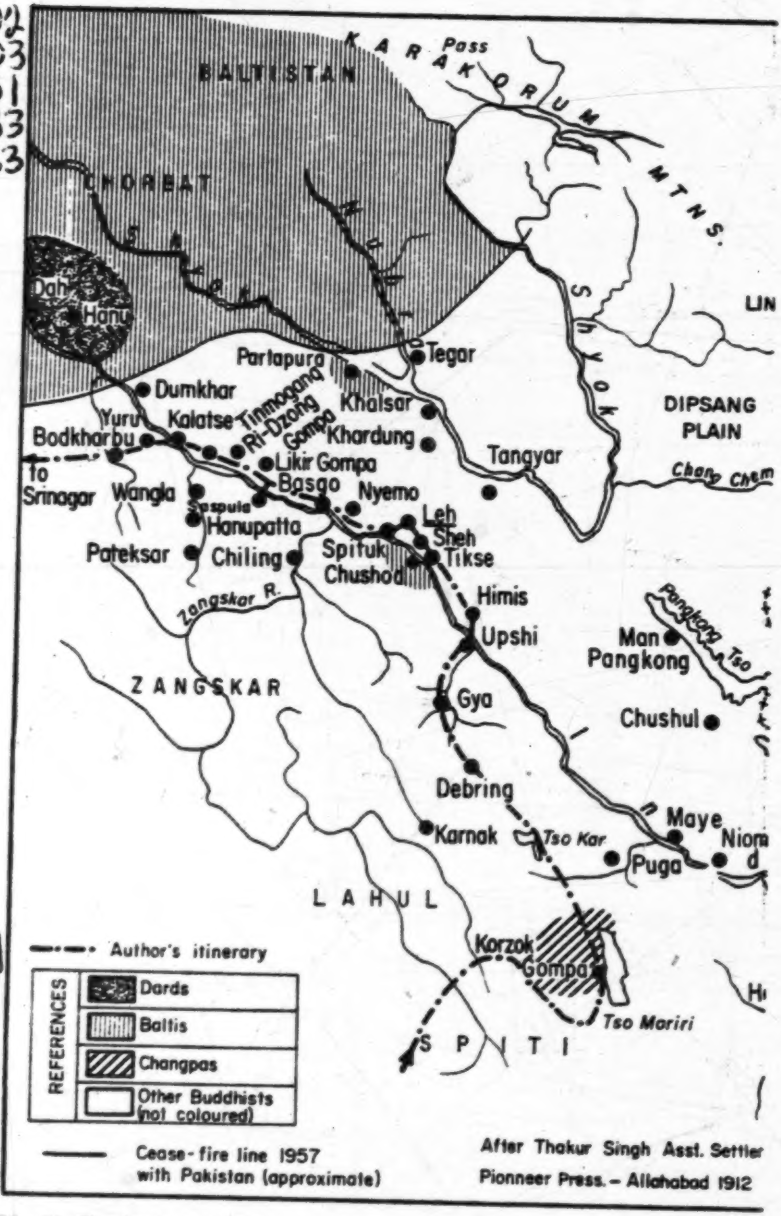
●133
563

[114]



KARAKORUM MTNS.
Pass
BALTISTAN
CHORBAT
SHYOK
DIPSANG PLAIN
LIN
Chang Chem
Dah
Hanu
Tegar
Partapura
Dumkhar
Khalsar
Tinmogang
Ri-Dzong Gompa
Khardung
Tangyar
Yuru
Kalatse
Bodkharbu
Likir Gompa
to Srinagar
Wangla
Basgo
Nyemo
Saspula
Hanupatta
Leh
Sheh
Tikse
Pateksar
Chiling
Spituk
Chushod
Himis
Zangskar R.
Upshi
Man
Pangkong
Pangkong Tso
ZANGSKAR
Gya
Chushul
Indus
Debring
Maye
Karnak
Tso Kar
Puga
Niom
LAHUL
Korzok Gompa
Tso Mariri
SPITI
Author's itinerary
REFERENCES
Dards
Baltis
Changpas
Other Buddhists (not coloured)
Cease-fire line 1957 with Pakistan (approximate)
After Thakur Singh Asst. Settler
Pionneer Press.– Allahabad 1912

Map V. Sketch map of Ladak.

[facing p 335-A]

24:Peter E-5 (1938)1963 AJ4 West Tibetans AJ4

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●133
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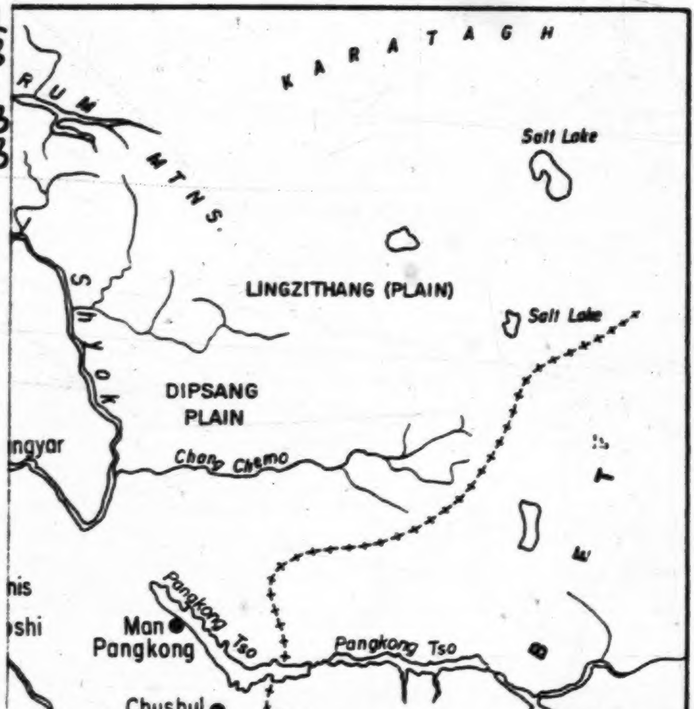
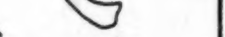

KARATAGH
RUM MTNS.
Salt Lake
LINGZITHANG (PLAIN)
Salt Lake
SHYOK
DIPSANG PLAIN
ngyar
Chang Chemo
TIBET
his
shi
Man
Pangkong
Pangkong Tso
Pangkong Tso
Chushul
INDUS
Maye
Nioma
d
Tso Kar
Puga
rzok
Gompa
Tso Moriri
Koyul
Hanle
Demchok
CHUMURTI
TI

fter Thakur Singh Asst. Settlement-officer, Ladak, 1968-1911
ionneer Press. – Allahabad 1912

[facing P. 335 - B]


0
15
30 miles

131 487 Trade routes through Ladak are important, and there are three principal roads: that to Central Asia, to Sinkiang in China, over the Karakorum Pass (18,550 ft.) from Leh towards the north; that to Tibet along the upper course of the Indus (eventually going on beyond the divide with the waters of the Brahmaputra towards Shigatse and Lhasa in U-Tsang); and that to Srinagar, capital of Kashmir, to the west, which used to be called the Indo-British Treaty Road (really a prolongation and continuation of the Central Asian road). The road from Kulu which I had followed is only a secondary one, and that over Rupchu is not worth considering at all as an artery for trade.

● 133 [101] Scenically, Ladak resembles Tibet more than it does Lahul. In Rupchu, which, strictly speaking, is a part of Ladak, although an isolated one, I already noticed that I was no longer in country like the valleys of Lahul. I was on high plateau, with mountain ranges around me which did not seem particularly high but which in reality, because of the altitude at which I already found myself and from which I observed them, were among the highest anywhere. With the Indus valley, although still at an altitude of over 10,000 feet, I reached a milder environment. [137] Here, there were trees and grass growing along the banks of the river and its affluents. [361] Villages were visible, high up, above the long stretches of rocks and shingle brought down by rivers in spate, where glacier water runs on the surface before going on underground to link up with the main watercourse in the valley. *Chötens*, *mani* walls 778 782 and large *gompas* were everywhere to be seen, as befits a Buddhist, Tibetan lamaist country.

2. *Population*

162 795 The population of Ladak at the time of my visit was estimated at 32,999. It was divided up into the conventional distinctions between Buddhists (29,410),[1] Mohammedans (3,470), Hindus and Sikhs (49) and Christians (70). The proportion of men to women (important among a people practising polyandry) was given to me as 14,760 men to 14,650 women for the Buddhists, as 1,730 men to 1,740 women for the Moslems, 36 to 13 for the Hindus and Sikhs (who rarely bring their women with them to these distant parts) and 37 to 33 for the Christians (nearly all converts of the Moravian Mission). As can be seen, the bulk of the population is made up of the Buddhist Ladakis of Tibetan extraction. They nearly all belong to the *Drug-pa* sect, although there are also rep-

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[564] [1] The low-caste Mõns, Garas and Bhedas, all artisans, were apparently included among the Buddhists, although their religion appears more akin to animism.

2: Gervis T-3 (no date) 1954 AVl Kashmir [redacted]

W. Tibetans AJ 4

CHAPTER TWELVE

The Trek through Ladekh to Leh

/01 /31 THE State of Jammu and Kashmir is not entirely confined to the valley though. Through the passes to north, east and west are other provinces which all come within its boundaries, although their peoples differ in appearance, language and religion.

[175] I suppose the most interesting of these is the province of Ladakh which some people refer to as "Little Tibet", for the people are in all respects more like those of Tibet than of the valley. The history of the country was close to that of Tibet for many hundreds of years extending back to at least the tenth century, the religious bond with Central Tibet being made the closer about the fourteenth century. One reads of their "King Deleg invoking the help of the Emperor Shah Jehan, and the fall of the western Lama Kingdom", then of the Raja Gulab Singh of Jammu sending a Dogra leader, Zorawar, to subdue Ladakh and Baltistan, of his being enticed to further expeditions in his search after the hidden gold of Lhasa, going high into the snowy mountains, there to perish with his whole army. Finally of Ladakh being made over to Gulab Singh by the treaty which also gave him Kashmir.

/31 ●/33 In these days it takes about an hour to fly from Srinagar to Leh the capital of Ladakh; it takes days—weeks sometimes—on foot by the old caravan routes through the passes which are closed for half the year, and from the numbers of books written upon the journey about the turn of the century, it would appear to have been a favourite one with those who were seeking out the unusual yet interesting places and people. Ladakh, a province of over thirty thousand square miles, is one of the highest habitations in the world; there are very few parts which are

2; Gervis T-3 (no date) 1954 AVl Kashmir [redacted]

W. Tibetans AJ 4

under eight thousand feet high, while most of the people live at 131
an elevation of between twelve thousand and fifteen thousand 133
feet, no wonder that few venture from their country, and when they do, have soon to return or die in the denser air of the lower countries. During the days of the summer months it is 132
exhaustingly hot, in winter, freezing cold; the summer nights can also be bitter.

Routes are divided up into so many "marches"; in the old 487
days a march was considered the distance which could be reasonably covered in a day, providing at the end a good camping ground for the night, and usually places where fresh coolies could be employed.

The route from Srinagar to Leh which goes by way of Sonamarg, Dras and Kargil is broken up into sixteen marches, the first portion to Sonamarg being divided up into four, whereas in these days it can easily be done in a day, and providing the weather is good, this also applies to some extent to a few of the other marches laid down for other parts of the journey which is a distance over all of two hundred and forty-two miles. Since it is one of the main trade routes into Kashmir it is not [485]
astonishing that the road, when passable, is good; by that I mean good the whole of the way for horses and pack mules, and with a surprising number of quite reasonable rest houses on the way.

The first pass to be traversed after leaving Sonamarg is 487
eleven thousand, three hundred feet high and between Beltal 133
and Matayan. It is usually open for horses from June to December, though we soon discovered that we had been well advised to employ Dras ponymen for that part of the journey; they know the route and the short cuts as well as the diversions to save hard climbing, in addition to being able to forecast accurately the weather in the mountains.

This pass is considered to be very dangerous with sudden storms and avalanches descending upon in it the early part of the year, so that the advice always given is that there must be at least two fine crisp days after such a happening before one attempts a crossing. On the occasion when we went over, our men had refused to move for two days and then insisted on starting from Baltal, ~~the last stage,~~ in the early hours of the

497 morning so that we reached the summit with the dawn. There
133 the wind was bitterly cold; we followed the lower track, for the road along the face of the cliff was impossible.

The Tibetan name for the pass is Zoji La; this was the first time that we discovered that most of the places from there on had two names, a Kashmiri one and a Tibetan one. Unfortunately the map seemed to have mixed them up, probably using the best known, but we did not always strike men of the country who recognised them.

[485] Once over the pass the country changes completely; there is already a Tibetan atmosphere in the air. Going down the other side there are numerous little dak huts built by the roadside for the use of those who chance the journey too late and get caught by the weather.

361 We came upon what we at first imagined would be the start of
136 a village, but found it to consist of a house or two, a telegraph post and a rest house. At many places tracks led off, some to lone, distant "farms", some to parts which were known to be good for shikar, for game is plentiful for the sportsman in parts of Ladakh. It is the home of the ibex and the markhor; both are of the wild goat family; there are wild sheep and kiang—sandy red, wild asses with dark manes and standing about twelve hands high—which are impossible to break; then there are red bear, snow leopard and in parts wolves are to be found; antelope and gazelle are common as are the reddish-brown marmot.

491 Here and there places had been marked on the Srinagar-printed map as the spot where a bridge would be found over the river, but there was no sign of it, probably the floods of the last season had carried it away, and we had to ford the waters; then on closer examination of the map we noticed a mark at the spot we had selected and decided that the printer had forgotten to make up his letterpress to include it in the key, or perhaps we were credited with enough common sense to know.

485 The first night we reached a rest house, and were there only just in time, for a quarter of an hour later a large party of men from Leh arrived; a few remained to sleep under the verandahs
515 outside—the stench of bodies was overpowering. I have been assured that the men of Ladakh are bathed three times only in their lives, when they are born, when they marry and when they

2: Gervis T-3 (no date) 1954 AVI Kashmir [illegible]

W. Tibetans AJ4

die, and I have no reason to disbelieve this. One of the difficulties is that there is practically no rainfall in this land either in summer or winter. Water comes from the snows, these feed the 312 rivers, but much of the snow simply evaporates at this height; the mountains are arid; among the rocks bushes occasionally grow which carry few leaves on their green twigs, but sufficient to feed the wild goats. The only sign of vegetation is either 133 ● along the river banks or in the nullahs and protected valleys through which the snow waters flow for a while and which do not take the glare of the sun which pours with great power through the clear air. From above it appears as if a giant flame-thrower has scorched the earth, which in different parts takes on all the colours of a burned brick, and in its destruction has missed those valleys tucked away. All around us were giant chocolate-coloured rock cliffs which hold the snow deep during the winter months, and permit the sun to shine for but a few hours on the small village. 515

Dras—known by the Tibetans as Hembas—seems to be not 361 one but a number of villages spread over a quite fertile undulating valley which is enclosed within a ring of hills but at a height of ten thousand feet and so placed that the bitter winter winds sweep down on it. When we were there the clumps of willows were green with young leaves and they told us that by by the time we returned the skylarks would have come from Kashmir.

Oddly enough there are a few European-style houses standing in their own gardens, and a rest house of similar design, built with a high pitched roof and tall chimneys, but looking strange, for it was without the verandahs which one has become so used to in India and Kashmir. The sand and dust gets in through all the cracks, in winter it is carried there by the icy blast, yet it must be a comfortable haven to those who are stranded there.

The valley narrows as one goes on past small fields which 133 would appear to have been scratched out from the rock-covered 241 surface of the ground; I can well remember being shown by a proud "farmer"—the father of one of the horsemen who came the whole way with us—a large patch scattered with stones as big as my fist, in which surely not more than a thousand green spears of barley had just come through. Anywhere else the sowing

2: Gervis T-3 (no date) 1954 AV1 Kashmir ~~AV1~~

W. Tibetans AJ

133 would have been considered a complete failure, but he assured
241 me that all were agreed that he was in for a record crop.

Generally the way is bare and barren, yet with stores in the
491 pony packs and the knowledge that one does not have to live there, it is grand, at times beautiful, in a rugged way; the road leads along the face of a precipice at one time, then changes to sandy banks, next across the only suspension bridge I felt safe in passing over, then ascending—we had until that time come slowly down—and on turning a spur of the mountain, we entered Ladakh, Kargil being the first habitation within its borders.

361 Kargil is quite an extensive place, with villages scattered on either side of the Suru river, and many miles of ground which in the spring is under water from the melting snows, bringing down earth from the mountains, this being made into fields during the summer and autumn.

342 The walls of the low-built houses are made of mud and stones mixed together, the finish is very crude; they look more like cow-sheds than houses. It seemed to be a land of women; they
462 were everywhere, round the houses, in the fields, coming down the hillsides with great bundles of sticks on their heads. It seems that the men leave their womenfolk there whilst they go either up to Leh or down to Srinagar with goods, or else hire themselves out as labourers. The Kargil man is also considered quite a good shikari and is engaged as such by shooting parties.

361 Kargil is the capital of Purik, a province in which most of the
[779] inhabitants are Ladakhis who have become Muslims. Beyond this town the people are Buddhists; their dress, customs and ways are so different from those seen before that there awakens a new interest in the journey.

After first passing over the plateau, we found ourselves entering a long ravine which gradually contracts until one wonders if there is any exit from it, the scenery is even more grand with fantastically shaped crags cut out of the brilliant and gloriously coloured sandstone. There are a few tiny hamlets which cluster round the rare patches of greenery which were like giant raindrops that had fallen on an unsympathetic, barren land of hard rocks and sleeping sands moved there by the winds at their will.

2: Gervis T-3 (no date) 1954 AV1 Kashmir [illegible]

W. Tibetans AJ4

itself; the castle fort surmounting them must have been almost 361
impossible to get at other than by alpine ropes.

The day following, we had our highest pass to cross and the [133]
easiest of them all. This was Fotu La at a height of thirteen
thousand, four hundred feet. I had gone on, for I had seen ibex [136]
ahead—these are goat-like animals with coats varying in colour from cream to chocolate. On the summit I waited for the rest of the party while I admired the magnificent view, and watched them climbing up, so very slowly. Not until then did I appreciate the height we had reached and how it affected one by slackening movements.

From there it was a downhill road two thousand feet to Lamayaru along a watercourse tight in between gloriously coloured cliffs of most unusual shape; later we came on a valley with a stony path lined by prayer walls and dozens of chortens, the village being at the far end with a most interesting monastery built on the low hills above it.

The road on is along the bed of a narrow ravine, so narrow, 491
with overhanging cliffs in places and the swift stream close on 172
the other side, that one is forced to cross and recross almost the whole way. At the far end there is a bridge guarded by an old Dorga fort. Lamayaru has towering above it the ancient castle of Bragnag, built by King Naglug and dating back to A.D. 1150.

The great Buddhist monastery here is an astonishing place. It 346
seems to consist of an enormous conglomeration of buildings, some of which might be carved out of the hill. There are narrow passages, steep staircases and unprotected ramparts; in parts there are tiny cells, in others large chapels with high-up windows and low benches; little recesses are cut in the walls, presumably
for books. In one of these chapels there is a great image of 778
Chubrezig which must be ten or twelve feet high; its background is a large circular plaque almost as high. The image has eleven heads, one on each side of that which is facing, and the others piled on top of them: it has a thousand hands spread out tier upon tier around the plaque, one of the larger pairs being held in prayer, another pair holding a rosary in one hand and a jewel in the other.

And from the roof of practically every house which sits at the 788
foot of the hill, rag prayer flags fly, sending prayers to heaven,

3: Imperial Gazetteer G-3 (1889-95) 1909 AV1 Kashmir AV1
W. Tibetans AJ4

Srīvara the lake is called Dala. The cultivation on the lake is peculiar and interesting.

Kr 631

Ladākh.—The most westerly province of the high mountainous land spoken of as Tibet is called Ladākh or Ladāg. It is now politically a division of the Kashmīr State, lying between the Himālayas and the Kuenlun mountains, and between Baltistān and Chinese Tibet. The Karakoram range forms the northern boundary as far east as the Karakoram pass. The country is known to educated Tibetans by other names—Mangyāl, Nearis, Māryul.

WT 101 131

Physical aspects.

Ladākh is one of the most elevated regions of the earth, its sparse cultivation ranging from 9,000 to 14,000 feet. The scanty population is found in scattered and secluded valleys, where along the river banks and on alluvial plateaux crops are raised by irrigation. Central Ladākh, which lies in the Indus valley, is the most important division of the country. To the north is Nubra, consisting of the valley of the Nubra river and a portion of the valley of the Shyok. The great floods of the Indus, caused by the descent of glaciers across its stream and that of the Shyok, and the consequent damming back of the Nubra river have caused great destruction to riverain lands, once cultivated but now wastes of granitic sand. Here the fields are fenced to guard the crops from the ponies of traders on their way to Yārkand. The south is the Rupshu country with its great lakes. Rupshu Lake covers an area of 60 to 70 square miles. Tsomoriri is 15 miles in length, and lies at an elevation of 14,900 feet. The lakes are land-locked and brackish. East of Central Ladākh is the lake of Pangkong, and in its neighbourhood crops of beardless barley and peas are raised at an elevation of 14,000 feet. South-west is the country of Zāskār, with a very severe climate chilled by the lofty snow ranges.

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Botany.

The flora of Ladākh is scanty, and timber and fuel are the most pressing wants of the people. The *burtse* (*Eurotia*) is a low-growing bush which gives a fair fuel, and in the high valleys the *dama*, a kind of furze, is burnt. On some hill-sides the pencil cedar (*padam*) occurs; and in occasional ravines the wild willow is found. Arboriculture used to be discountenanced under the Gialpos, on the ground that trees deprived the land of fertility.

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Fauna.

On the plains up to 17,000 feet wild asses or *kiang* (*Equus hemionus*), antelope (*Pantholops hodgsoni*), wild yak (*Bos grunniens*), ibex (*Capra sibirica*), and several kinds of wild sheep (*Ovis hodgsoni*, *O. vignei*, and *O. nahura*) are found; and

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A Trip to Ladakh

000 a friend's house. Personally I possess a bearer who knows this trick, and he always asks me to ask my friends to allow their servants to count over the spoons and forks, etc., before leaving the house, to see, of course, that they have not left anything of their master's property behind.

276 Another custom I discovered of quite a different kind, which interested me.

I saw a coolie sprawling on the road with his mouth on the ground and apparently blowing smoke. On asking what it meant I was told that the man not having brought his hookah was not going to be done out of his smoke. He had made a small tunnel. At one end he had placed his tobacco and lighted it, and was sucking the smoke through the tunnel into his mouth. How one lives and learns!

346 After leaving Mulbe we turned off the caravan road in order to return via Suru under Nun Kun and down the Wardwan nullah.

We passed the monastery of Shergol. It is built into the rock. The windows seem to be in the face of a
406 precipice. The entrance and exit is peculiar, for a basket is let down by a rope, in which the visitor sits and is pulled up—a most excellent arrangement for keeping
133 out undesirables. Our first view of the Suru river was superb, and reminded me of pictures of heaven which I had seen in children's picture books. We were up on a ridge and looked down upon the river where it widened out and was full of islands covered with willow-trees, and giant peaks rising behind and above the nearer hills forming the valley.

492 When we reached the bridge we found that it was far too frail for our ponies. The river itself could not be forded, and was too swift and dangerous to permit of the

ponies swimming. What was to be done? The question 492 was soon answered by the pony-men taking the loads off the ponies and carrying them across, then tying a rope round a pony's neck, the pony being forced into the river whilst the rope was held by the man who walked across the bridge, thus keeping the pony's head up-stream, so that the strain was lessened. In this way all our ponies came across safely, but the man on the bridge had some difficulty in keeping his feet as the strain on the rope was fairly severe, especially in mid-stream.

The village of Suru lies under Nun Kun, a fine pile of 361 rock, the summit being 23,500 feet above sea-level. It 133 is one of the peaks that we can see from near Srinagar, and looks like a white pyramid. From where we stood, looking up from the Suru river, it was just magnificent, its great glaciers shining in the sunlight.

Just outside the village is a lonely grave, that of Captain Christian, who died of typhoid whilst on a shooting expedition. We spoke to the head of the village about safeguarding the grave.

On our march from Suru we came across a great 136 number of marmots, living in communities like rabbits. They are of a reddish brown colour and of the size of a small fox. They place sentinels around their village, who sit on the top of a rock to enable them to get a good view of their enemies, and whistle louder and louder as they see one approaching and then dart into their burrows. They are most fascinating animals. They seem to like the wild garlic that grows profusely in these regions.

We entered the Wardwan Valley by the Do Nullah 133 Pass, and had to walk for seven miles on a glacier; it was exciting work jumping the crevasses. We were careful to take off some inches on this side and land with plenty

2: Biscoe M-3 (1890-ca. 1920) 1922 AV4 Kashmiri
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133 of ice to spare on the other side, in case of the ice being rotten. One of our coolies did fall into a crevasse, but he was saved by the load on his back getting hitched on to the ice. We were glad when all our party reached camp safely. We were careful to select a safe place for our tents, for we passed the spot where Lieutenant Genge, I.M.S., encamped, and during the night he with all his servants was swept away by an avalanche. The Wardwan is an exceptionally narrow valley, and hence the mountain-sides are very steep and precipitous, so that snow-slides and avalanches are very common, and one has to keep one's weather-eye open for them.

797 During our march Dr Neve managed to fit in a good
164 deal of medical work. He would see the patients after
our tea, and also, if necessary, in the morning before
starting. Some patients followed us from camp to camp,
when it was necessary for them to have continual treatment.
Dr Neve during this tour performed forty-two
operations for cataract. It was great to see the delight
of the people who received sight. After the operation,
which was accomplished in a marvellously short time, Dr
Neve would hold up his fingers and ask the patient to count
them. When the patient found that he was correct in
his counting, and could really see, a smile began to pervade
the face, which grew wider and wider as he realised that
it was no dream or sorcery, but naked fact, that his sight
was restored. Of course the eye was bandaged up
directly, and the patient was given strict orders not to
undo the bandage for two weeks. The removal of the
cataract is a wonderfully neat and quick operation, and
one envies those who have the power to give such joy in
so few seconds; it is very little short of the miraculous.
000 And then there is the greater joy of the missionary doctor
who bestows the great gift freely and without payment,